UTTERANCES IN CONTEXT:

TOWARDS A SYSTEMIC THEORY OF THE INTERSUBJECTIVE ACHIEVEMENT OF DISCOURSE

by

John A. Bateman

Thesis presented for the Degree of Doctor of Philosophy of the University of Edinburgh in the Faculty of Science

October 1985

Abstract

In this thesis I argue that sequences of discourse contributions may be both structurally-characterised and functionally-motivated from within an autonomous level of linguistic patterning *specifically* concerned with the achievement of conversational interaction. In contrast to prior mainstream computational and linguistic research in the area of discourse design, I draw upon the results of ethnomethodology and conversation analysis to move attention *away* from issues necessarily involving individual speakers' knowledge, beliefs, and intentions and *towards* an 'intersubjectively'-viable statement of the *shared* linguistic resources responsible for achieving interaction. I examine linguistic resources for designing discourse in two principal areas. In the first, I extend the discourse construct **exchange**, that has arisen in Neo-Firthian linguistics as an attempt to formalise the ethnomethodological notion of the 'adjacency pair', to make contact with a wider range of grammatical (and particularly, 'cohesive') phenomena and discourse 'trajectories' than has been achieved previously. The fine details of the principles I propose are developed on the basis of an analysis of data; protocols elicited in a co-operative game situation proved well-suited to this end and thus a sample of such protocols forms the main body of data I address. In the second area of investigation, which follows from the *Hallidayan*-bias of the linguistic metatheory I adopt, I consider some of the consequences that 'context' has for the deployment of linguistic features; this amounts to a considerable extension to the traditional notion of **register** so as to include the *negotiation* of particular restricted forms of expression valid over particular courses of interaction. Although in this thesis I do not provide a *formalisation* of the linguistic resources I describe, I do place them in the context of an existing computational implementation of a Hallidayan view of grammar (the **Nigel** system) and explain the role of my obervations as a necessary stage in the task of achieving the eventual goal of an appropriate formalisation of the organisation of discourse.

Declaration

I declare that this thesis has been composed by myself and also that the research reported has been conducted by myself unless otherwise stated.

Edinburgh, 12 December 1984
Kyoto, 14 October 1985

John A. Bateman

Acknowledgements

The doing of this thesis and its associated research has been assisted greatly by a number of people. On the academic side, I would like to thank my supervisor, Henry Thompson, for useful comments and suggestions and also for exposing me to the brand of philosophy which has come to underlie my approach to language. Furthermore, this version of the thesis has also benefited beyond measure from the detailed criticisms of Stephen Levinson and Mark Steedman. In addition, thanks go to Ivan Blair, Robert Inder, John Lee, and Philip Werner for helpful discussions on the more esoteric sides of my approach, and to the members of the School of Epistemics generally for creating such a good working environment. Many thanks finally to Simon Garrod for some interesting talks and allowing me ready access to the maze game protocol tapes, and to Bill Mann and Christian Matthiessen for improving my understanding of the Nigel system.

On the technical support side, special thanks to Wendy Jones for cups of tea in the morning (and afternoon, and evening, ...) and eventually for stylistic suggestions, although I had to go a long way to get them; to the McWilliams - Christine, Colin, Nicholas, and Anna - for the excellent living environment without which the time spent in Edinburgh would have been infinitely less enjoyable; and lastly to Jo Cumming for refuge as the final weeks turned into months and Wayne Caplinger for essential distractions throughout. Postproduction was greatly simplified thanks to the logical moving of files assisted by Jun-ichi Nakamura and the physical moving of piles of paper by James Bateman (the cheque's in the mail).

Finally, thanks go to John Jaworski for supporting an interest and to Joyce and Arnold Bateman for putting up with the resulting piles of computer output for over a decade; you can throw them out now.

The first three years of this research were supported by the S.E.R.C.

CONTENTS

1. Overview - the method of attack

The primary objective of this thesis is to begin the articulation of a theory capable of capturing the organisation of natural discourse. This organisation is taken to be evident both in the fine details of micro-organisation which shape the design of individual utterances and in a broader macro-organisation of significant, extended stretches of discourse.

The principle theoretical ingredients I have found necessary during this search for a satisfactory treatment of discourse are as follows. First, I view ordinary-language philosophy, ethnomethodology, and existential philosophy as providing grounds for the description of 'nonindividualistic', 'intersubjective', and *non*cognitive processes in accounts of human behaviour. Second, I interpret Hallidayan systemic linguistics as the most coherent and well developed linguistic framework currently in existence that is capable of allowing a serious consideration of intersubjective processes in relation to fine-grained linguistic description. Third, I argue that an extended systemic account provides for a formalisation and integration of the results of 'Conversation Analysis' without doing violence to the basic tenets to which conversation analytic approaches adhere. And fourth and finally,

although they will not be made use of in this thesis, I accept the tools of cognitive science and computational modelling as a basic resource for theory construction that, during subsequent cycles of investigation, is intended to provide a foundation for the account I propose. The central domain with which I shall assume familiarity will therefore be cognitive science and the next section will use some cognitive science accounts of language as a spring-board to the issues that will concern us below. For the other areas, of necessity somewhat schematic introductions will be given. Although these will hopefully permit the arguments to be followed rather than presenting as thorough discussions of the issues involved as might be desirable, suitable references will always be given for those who may wish to follow up a particular topic in more detail.

The structure of the thesis and the rationale for that structure are as follows.

Chapter one provides an introductory discussion of the requirements placed on a linguistic theory by my rejection of 'cognitivism' as a tenable approach to the study of language. The chapter first briefly discusses this viewpoint and its motivation, sketches the compatible 'conversation analytic' way of approaching discourse that I accept as offering a suitable background with respect to which theory construction may proceed, and then, justifying the rather strict, 'inter-organism' perspective from which, following Halliday, I insist we view it, introduces Hallidayan systemic grammar. This is the linguistic theory that I claim to be

most appropriate both for working within the general metatheoretical orientation of this thesis and for capturing those particular insights provided by conversation analysis.

Chapter two describes how discourse phenomena have formerly been considered within systemic linguistics, introduces the most detailed systemic grammar currently in existence - the computational systemic grammar 'Nigel', and begins the construction of a *linguistic* characterisation of the organisation of discourse that prepares the ground for the main body of analysis that is found in chapters four and five.

As an introduction to that analysis, chapter three describes the data with which I am working and explains why the simplest initial framework for discourse suggested in chapter two is in need of substantial revision if the exigencies of naturally-occurring language are to be captured.

The division into chapters four and five of the data analysis and the corresponding development of the theoretical framework which supports that analysis reflects the two principal areas with which I am concerned. Chapter four considers some syntactic and intonational manifestations of the linguistic resources available for creating discourse, while chapter five relates these discourse resources to one aspect of the development and structuring of 'context'. Language as such, as is mentioned below and explained in chapter one, is taken essentially to be the means by which intersubjective, social contexts

are maintained and developed and chapter five suggests ways of capturing some particular consequences of this.

Finally, in chapter six, the initial cycle of investigation that constitutes this thesis is summarised and evaluated, enabling the necessities of the next cycle to be outlined.

While this completes a brief sketch of the structure of the thesis as a whole, it might be useful here at the outset to introduce in slightly more detail some examples of the types of problem that I contend require the extensive, and by no means neutral, metatheoretical commitment that I adopt. The most general claim of this thesis is that a strict, 'interorganism', Hallidayan interpretation of conversation analysis provides the basis of a far more appropriate and insightful view of the workings of natural discourse than that proposed within either mainstream cognitive science and discourse analysis or within conversation analysis when considered alone. However, the particular claim of the thesis, by which the general claim is supported, is that it is possible to uncover some purely *linguistic* organisational properties of discourse which can contribute considerably to our understanding of how discourse functions. Furthermore, I suggest that most cognitivist accounts currently proposed in fact obscure this level of organisation by the imposition of inappropriate concepts imported unwittingly from an entirely distinct level of *social-situational* organisation. The thesis therefore undertakes to separate these two sources of explanation, the discoursal and the situational, to show

some typical contributions that each of them makes, and to specify in some detail certain very common discourse level organisational resources apparently utlised in the design of discourse.

In order to get us underway, then, and to motivate somewhat the shape of the subsequent discussion, I will now suggest several ways in which I take current cognitive-oriented understandings of the nature of discourse and of how discourse functions to be inappropriate. This will take the form of a sketch of some 'state of the art' discourse processing techniques found within cognitive science and the particular directions these techniques suggest to be necessary for future development and concludes with a consideration of how these suggestions fare in the face of a detailed analysis in the conversation analytic tradition, carried out by Schegloff [1977], of some aspects of a simple, spontaneous telephone conversation.

I mention computational techniques here at the outset because the construction of computational language processors and of computational conversationalists provides a very useful testing ground for our current understanding of the functionality of discourse. The computational paradigm offers an unrivaled means of capturing complexity in the area of linguistic processing without being overwhelmed by that complexity; a well-developed computational account can concern itself simultaneously with fine detail over a wide range of issues and with presenting a perspicuous vantage point from which to view in general terms the mechanisms that are involved. Therefore, although I will suggest that the vast majority of

computational accounts of language have not dealt sufficiently with certain crucial aspects of utterance and discourse design, I will nevertheless support the use of a computational approach generally - even in the light of some of the severe philosophical criticisms I have discussed elsewhere.

2. The search for discourse mechanisms - the state of the game

One of the clear results that has emerged from the computational approach to discourse so far concerns a recognition of the variety of distinct types of knowledge that need to be brought to bear in the production and interpretation of connected, 'multisentential' language. Regardless of how these processes are implemented some attention needs to be paid to at least the current state of the discourse and the current state of the listener; this information is usually maintained in distinct 'discourse models' and 'hearer models'. Mann, Bates, Grosz, McDonald, McKeown and Swartout's (1981) discussion of the current state of the art in text generation establishes that the first of these models, that of the discourse, should be sensitive to at least (1981, p5):

1. The structures that can be built out of sentences and larger units.
2. The needs of the writer that each discourse structure meets.
3. The principal effects that the use of each structure produces.
4. The effects of various discourse structures on the reader's attention.

while the latter, that of the hearer/reader, should make available at least (*ibid.*, p4):

1. What is obvious - including common factual knowledge and

certain "obvious" inferable information. Obviousness does not agree with logical validity.

2. What has already been told, and what is obvious from that.

3. What others believe - including mutual beliefs and beliefs about the writer's belief.

4. What is currently in the reader's attention.

Now, these models and the information they supply help constitute the relevant 'context' with respect to which each successive utterance, sentence, etc. contributed to the discourse is to be judged. Unless such contributions can be 'integrated' in some sense with what has gone before they will not be intelligible as continuations of the discourse; their *relevance* will be obscured. However, the need for 'obvious inferable information' sets up quite a problem for the construction of context since precisely *what* is obvious[1] depends upon the kind of context which is perceived to be in force. This establishes the area of problems investigated under the heading of 'context recognition': how is it that a language using system can decide what kinds of contexts are applicable so as to constrain within practical limits the information that might potentially be relevant to a discourse and which, therefore, ought to be kept on hand ready to aid interpretation and shape production?

Two general approaches to this question can be isolated. The first, which can be termed the 'deep micro-world' approach, tries to capture as much information as is possible within a narrow problem

---

1. And indeed, what is inferable - if this is not to be simply a logical inferability which ignores what speakers might actually infer in various contexts.

domain so that a system will *already* know, as near as it can, everything that may be relevant for its domain. All discourse with which the system is expected to be concerned has its subject matter fixed to the problem domain and the purpose of any discourse is restricted to a particular, narrow set of possible interactions. Examples of such approaches are, of course, expert systems, data base inquiry systems, and the like.

Although increasing success is now being claimed in this area, there are clear drawbacks for the expert system view of linguistic interaction as a viable model of human conversation. In fact, human language users appear to adopt precisely an opposite strategy in dealing with language to that modelled in expert system type approaches. Rather than trading breadth of coverage for depth, humans instead maintain for language a maximal breadth of applicability: being a competent language user could almost be said to *mean* being able to converse at some level irrespective of topic and context, whereas if one strays outside the appropriate domain for an expert system there are generally no means available for supporting conversation capable of considering a new domain.

It is often assumed that this limitation of the expert system approach is not theoretically significant and does not present a problem for constructing more general accounts of discourse and conversation. All that is indicated is that as yet insufficient 'factual knowledge' has been built into any system. Furthermore, since an expert system is to function as an expert, not as a general

conversationalist, it is also argued that a restriction to narrow domains of knowledge is in any case quite appropriate.

This view is shortsighted for several important reasons that should influence both the design of expert systems and any attempt to construct a theory of human conversation. The essential point to be grasped here is that ignoring human conversational practices results in expert systems and theories of discourse that are seriously inadequate. By assuming that such conversational practices are not functionally relevant in the domain of structuring knowledge and information and that human conversation can be modelled by relying upon a 'deep understanding' made possible by knowledge of the particular domain in which expertise is claimed, a computational conversationalist will in fact only be able to achieve a low level of conversational competence. This is because it is only the broader and generally applicable *mechanisms of conversation* deployed in natural interactions that *reduces* the deep processing that would otherwise need to be undertaken to within practical limits. There are good reasons, as we shall see below, to believe that the design of discourse contributions is often *specifically chosen* so as to simplify the problems faced by its intended interpreters. The restriction of the conversational competence of systems to particular domains of expertise then requires *more* inferential work to be performed in order to get a *less* satisfactory result - clearly a situation in need of change.

Support for this position is now forthcoming from the

computational camp also. By means of a study of actual interactions between people and a question-answering system, Cohen, Perrault, and Allen (1982) have demonstrated that

> "users of these systems expect more than just answers to isolated questions. They expect to engage in a conversation whose coherence is manifested in the interdependence of their often unstated plans and goals with those of the system. They also expect the system to be able to incorporate its own responses into analyses of their subsequent utterances. Moreover, they maintain these expectations even in the face of strong evidence that the system is not a competent conversationalist." (1982, p245)

As a consequence of this, even simple

> "question-answer interactions should be treated as degenerate cases of conversation." (*ibid.*, p270)

Humans expect to interact linguistically in the form of conversations. This expectation is not altered just because a conversationalist happens to be a machine. It is desirable, then, for systems that are intended to interact linguistically with people to be able to converse more naturally and this requires that we achieve an understanding of just what 'more naturally', in this context, entails; i.e., a 'theory of conversation' needs to be constructed.

One convenient characterisation of the work undertaken in this thesis is then the following: by means of an improved understanding of the structures of extended discourse and conversation and of the strong relationship of mutual constraint that holds between discourse structure and context, I will seek to make more explicit the ways in which language *itself* guides the deployment of relevant knowledge. I will claim below, particularly in chapter four, that fine details of syntactic construction, and 'cohesive' items generally - pronouns, specific lexical choices, etc. - can clearly signal the kind of

discourse development that is underway. Therefore, any proposal for context recognition that does not fully utilise such information necessarily complicates its task greatly.

This then constitutes the second general approach to the question of how to constrain context. Ways are sought to enable the *language that occurs* do more of the work required. The beginnings of this can already be seen in proposals for context recognition that centre closely upon the form and content of discourse contributions rather than assuming beforehand that the subject matter and modes of interaction are more or less fixed. However, with most proposed solutions in this area, I will claim that insufficient attention has been given to the *purposes* of discourse contributions. The currently accepted view of such purposes does not significantly improve upon that of Aristotle's *Rhetoric*, although Grimes (1972, 1975) is often cited as presenting a more current and linguistically viable introduction. The basic premise of all such approaches is that there is some set of functional relations which may hold between segments of discourse; these Grimes terms 'rhetorical predicates'. When a discourse is constructed following the patterns the rhetorical predicates define as possible, a coherent discourse should result. Examples of the kind of relation Grimes has in mind are the following, taken from his 'hypotactic' class:

predicate	function
supporting	supplementary
attribution	adds information
specific	gives a more detailed account of something mentioned centrally
explanation	associates a central element with an abstract statement
analogy	provides an analogy
manner	specialised kind of attribution

etc.

More or less similar lists have been proposed by Shepherd (1926), Stratton (1971), Beekman and Callow (1974), Longacre (1976), van Dijk (1977), Reichman [1981], Mann and Thompson (1983), and many others.

The most popular development of these notions in the treatment of actual discourse structure has been to construct discourse schemata using the rhetorical relations as basic building blocks. This permits quite complex discourse structures to be proposed; examples of this approach include Reichman [1981], McKeown (1982), Mann (1984), and also some of the more structural studies of genre, e.g. Hasan (1977). However, even though there may be general agreement about the general categories of such rhetorical relations, agreement over their finer details is considerably less frequent. Indeed, there seem few criteria upon which any such agreement could be based; the allocation of a particular analysis to any instance of language use relies purely upon that language already having been understood in order that an appropriate choice of rhetorical relation can be made according to our intuitive understandings of just what the rhetorical relations are intended to cover. Clearly, what is required is some means of formal identification for discourse structure; without an *independent* specification of the structures that are to be allocated to a discourse that allocation remains circular and impressionistic.

The search for more adequate definitions of discourse schemata

has proceeded on three main fronts: the precise statement of the linguistic consequences of the deployment of a schema; the statement of sequencing rules among schemata and among the elements that constitute schemata; and the characterisation of the 'meanings' of schemata in terms of the particular developments of propositional content individual schema support. Unfortunately, the more important question as to what it actually means to propose a discourse schema is considered too obvious: discourse structure is how people organise discourse. If one takes any proposed discourse schema, however, and asks what all instances of the use of that *particular* schema have in common, the *only* general answer is that the language so classified *performs the function that the schema identifies*. An instance of an analogy schema makes an analogy, an instance of an explanation schema gives an explanation, an instance of an example schema gives an example, and so on.

But whether a segment of language use may justifiably serve as, for example, an explanation is not something which may be decided on *linguistic* grounds. The decision can only be made on the basis of a language use's conformity with the socially established norms and criteria for the offering of a successful explanation. Similarly, as will be illustrated in chapter two, the evaluation of a segment of language as a story or narrative is crucially dependent upon the culturally-given view of what constitutes stories or narratives.[2] The schema, in each case, as a *socially*-stabilised 'plan', is a *socially*-established and labelled possible course of action.[3] The criteria for membership for a discourse schema, as construed in terms

of rhetorical relations, are therefore based upon the interpretation of a piece of language as performing the social function that the schema identifies. There is, then, no guarantee that instances of a schema will share anything *linguistic* at all.

A consideration of the work of Reichman (1981), which is also developed in Reichman (1978) and Reichman-Adar (1984), as one of the more extensively developed theories in this area will serve to clarify this important point.

2.1 Reichman's account of discourse - some problems unsolved

Reichman's framework attempts to formalise the genre of informal argument and debate. Her presupposition is that the highly structural nature of discourses such as those studied by Grosz (1977a,b; 1978; 1981) is not, in fact, merely a property of task-oriented dialogues but instead, if one investigates at the appropriate level of abstraction, applies to all naturally occurring discourse; thus,

> 'While classes are given to teach the rules of writing, conversational speech has often been thought of as a rule-free process of communication. The analysis of actual dialogues forces one to reject such an hypothesis and to recognise that oral speech is a rule-governed mode of communication... This study demonstrates that the conversations in which people partake daily are highly structured and formally analyzable

---

2. What constitutes 'American stories' has been addressed in a very interesting study by Polanyi (1978b), while some of the distinctions between American and Greek narratives have been investigated in Tannen (1980).

---

3. This possibility has at least been raised with respect to scripts, cf. de Beaugrande (1980, p164) and Schank and Abelson (1977, p72n), although the significant consequences of this position have not been adequately addressed previously.

entities." (1978, p283)

Accordingly, Reichman develops a formalism of hierarchically arranged 'context spaces' analogous to Grosz's representation of task and sub-tasks but presented as the "most abstract level of discourse structure." [1981, p242] This is to claim that

> "one can characterise and specify a specific set of standard thematic relationships that utterances (or context spaces) have with one another. A listener's interpretation of a speaker's utterances is facilitated by a listener's (1) accessing this standard set of relations; (2) knowing which relations are most likely to occur at a given point in the discourse; (3) having an up-to-date handle on the current relevant discourse environment; and (4) noting specific surface forms used by a speaker." [*ibid.*, p57]

Furthermore,

> "...the grammar's characterisation of a communicative act is, in the main, specific to a maxim-abiding, structural and functional thematic development of the discourse, not to underlying psychological motivation. ... The role of the grammar developed here is to express the constraints inherent in linguistic communication, within which the psychological motivations ... must operate." [*ibid.*, p253]

Now, although this supports a nonpsychological interpretation of discourse that I applaud and further justify in chapter one, Reichman's use of 'context space' to denote an "abstract non-content oriented level of structure common to all forms of discourse engagement" [*ibid.*, p249] demonstrates an equivocation about discourse and context that is severely damaging. In particular, Reichman finds herself with a maximally abstract statement of *possible* discourse structure but a relatively poor statement of how this is to correspond with particular discourse units in particular genres. This should be made clear by the following.

Reichman concerns herself almost completely with argument and

debate, and yet the context space schemata she develops at the most abstract level of her theory are claimed to underlie *all* discourse forms and to be *independent* of genre. The particular functional roles that segments of a discourse can fulfill in the pursuance of maxim-abiding informal argument are only to be found at a much less abstract level. These functional roles, or 'communicative goals', are assigned to particular *types* of context space (nine are described) to give possible 'conversational moves'. Each conversational move is an actual discourse unit which can occur in maxim-abiding discourse and is associated with a 'clue' word or phrase which is taken to be symptomatic of its use. The moves Reichman describes and their associated clue words are the following:

moves	*clue words*
Support, Further Support	because; like; like when
Restatement	so
Interruption	incidentally; by the way
Return	anyway; in any case
Indirect Challenge	yes; right but
Direct Challenge	(no) but
Subargument-Concession	all right; OK but
Logical Abstraction	but look; listen; you see
Contrastive Respecification	but ... (though)
Analogy	it's like; the same as
Further-Development	now

The abstract context space schemata provide a general abstract class of possible discourse units that may be instantiated as particular conversational move types. Some of the consequences and preconditions for a conversational move can be left to the general properties of abstract context space schemata, while others need to be filled in specifically; the consequences of a support or further support move, for example, are defined by Reichman thus:

'A support conversational move can either close a preceding

> context space or put it in a controlling state. If the preceding active context space is a supportive context space, then the move closes this preceding supportive context space; if the preceding active context space is an issue context space then the move puts this issue context space in a controlling state. These differences reflect the different discourse environments available for a support conversational move." [*ibid.*, p98]

The terms 'active', 'close', and 'controlling' identify "levels of conversational influence" [*ibid.*, p86] that a context space may have (seven levels are distinguished); it is these levels which define the global sense of focus in which context spaces are considered with respect to the discourse. The terms 'issue' and 'supportive' refer to types of context space; the former is considered as an 'independent' unit, the latter as a necessarily dependent unit.

Now, *each* conversational move that is defined needs some such specification of the consequences that it is to have on the development of any hierarchical discourse structure of which its use forms a part. Thus, for each genre considered a new set of conversational moves may be uncovered, each of which would require its own detailed statement of consequences. Reichman's framework, however, provides very little in the way of guiding principles for the construction of genre-specific descriptions and this is because the generality of the context space schemata has been bought at the cost of arbitrariness at the level of conversational move systematisation. The complexity of the 'discourse grammar' Reichman constructs reflects this difficulty and it is a pity that the possible generality of the abstract context space schemata is obscured when attention is turned to the more concrete description of particular genres. This is one consequence of the inappropriate view

she adopts of the levels of abstraction that are involved, of which the aforementioned conflation of 'discourse' and social 'context' is symptomatic.

Reichman herself, with a view to providing a place for some of the distinct positions that have been adopted concerning genre, discourse structure, 'schemata', etc., sees the need to distinguish between three interpretations of 'structure', as applied to text, which she considers as 'orthogonal' levels of characterisation [*ibid.*, p247]. Two of these levels of characterisation are derived from the psychological research of Anderson, Pichert, and Shirey and correspond to some traditionally accepted areas of knowledge. The first, 'textual schemata', embody

> "knowledge of discourse conventions that signal organisation, with specialized conventions characteristic to distinct text forms and other conventions common to most text forms. These organisational schemata include a story schema, a personal letter schema, a news article schema, a scientific report schema, and so on." (Lange, 1981)

This is clearly equivalent to a psychological statement of genre and would include the possible forms of argument that Reichman enumerates. The second, 'content schemata', simply refer to the "knowledge of real and imaginary worlds" (*ibid.*) that a language user must possess and corresponds to the factual knowledge of an expert system. And finally, the third level of structural characterisation of text is that of Reichman's abstract context space schemata. This three-way division of labour permits Reichman to maintain that *all* forms of discourse share the *same* structure and rules of discourse management, i.e. those of the context space schemata, while still admitting the utility, at a lower level of abstraction, of analyses

in terms of genre and genre-specific characteristics.

However, neither the framework itself, nor any discernible 'metatheory', makes it clear how these three levels of characterisation might be supplemented in a well-motivated fashion. In her conclusion, Reichman writes

> 'Lest, however, I leave the reader with the impression that all questions of structure characterisation have been adequately addressed in this work, I must point out that, in a sense, I have only carefully distinguished between the end points of the 'structure-spectrum' addressed in the context space theory. The mid-points of this spectrum remain hazy.' [1981, p314]

The least abstract point on this so-called structure-spectrum is that of content schemata and the most abstract is, of course, that of context spaces as Reichman defines them. The 'hazy' mid-section of the structure-spectrum includes most of the traditional approaches to discourse structure and rhetoric, including the textual schemata of particular genres, and it is unclear both where organisational details such as these are to be placed and how they are to be dealt with systematically. If Reichman's theory is then to be seen as an attempt to provide a more general set of constraints upon discourse schemata in order that they might be formalised more adequately, it must be considered unsuccessful.

Indeed, it could even be argued that Reichman's context space theory fails to make contact with those very phenomena of discourse structure that approaches remaining within the rhetorical relation tradition are concerned to explain. The only 'surface' linguistic phenomena that Reichman is able to appeal to in her identification of

conversational moves are pronominalisation and form of reference patterning, the use of certain key phrases (her 'clue' words), and the use of the present progressive tense; by and large the segmentation is impressionistic. This generates likely conversational moves which may subsequently be classified in terms of their consequences for 'context space' development but does not really allow us to get to grips with the fundamental problem of linking these kinds of discourse categories with their appropriate realisations in form.

This should not, of course, be taken as a criticism of Reichman's approach specifically. Without a clear conception of what discourse structure might be, a straightforward interpretation of the presumed linguistic organisation in terms of the functional organisation of the text that we perceive as its meaning will always be favoured. Mann (1984), for example, also states explicitly that his proposed development of a formalisation of text structure will proceed along functional lines analogous to Reichman's communicative goals. In his view,

> 'Text appears as it does because of intentional activity by the writer. It exists to serve the writer's purposes. Many of the linguistic resources of natural language are associated with particular kinds of purposes which they serve: questions for obtaining information, marked syntactic constructions for creating emphasis, and so forth. At the schema level as well, it is easy to associate particular schemas with the effects that they tend to produce: the *Request* schema for inducing actions, the *Evidence* schema for making claims credible, the *Inform* schema for causing a reader to know particular information, and so forth. Our knowledge of language in general and rhetorical structures in particular can be organized around the kinds of human goals that the linguistic resources tend to advance.' (1984, p13)

Again, the clear tendency is for the social goals of

conversationalists to be imposed upon the *linguistic* goals displayed in the discourse even prior to an examination of what such goals might be. In all such accounts, what is shared *linguistically* by discourses which perform the 'same' *function* remains a mystery.

I will now support this claim that there *are* indeed linguistic commonalities across discourse contribution design to be captured by contrasting the type of analysis that an account such as Reichman's might suggest and one taken from the conversation analytic tradition. These analyses will be made with respect to a segment from a telephone conversation used by Schegloff (1977). This will clarify the ways in which a proper consideration of the purposes of discourse at a *conversational* level can yield a more appropriate and simplifying view of discourse design and function.

2.2 A simple telephone conversation as analysed by Schegloff

The segment of the telephone conversation of principal concern in Schegloff's analysis is reproduced as figure 1 below, the context of which is described thus:

> 'B has been describing to A the differences he (B) has been having with his high school history teacher over the morality of American foreign policy since the time of George Washington.' [1977, p81]

Schegloff's main point in this example revolves around the analysis of the discourse contributions of lines 12-15; i.e.:

1. B: An' s- an' ( ) we were discussing, it tur-
2. it comes down, he s- he says, I-I-you've talked
3. with thi- si- i- about this many times. *I* said,
4. it comes down t' this:=
5. B: = Our main difference: *I* feel that a government,
6. i- the main thing, is- th-the purpose a' the
7. government, is, what is best for the country.
8. A: *Mm*hmm
9. B: *He* says, governments, an' you know he keeps- he
10. talks about governments, they sh- the thing that
11. they sh'd do is what's right or wrong.
12. A: For *whom*.
13. B: Well he says- // he-
14. A: By what *stan*dard
15. B: That's what- that's exactly what I mean, he s-
but he says ...

(underlining represents emphasis; '=' represents no gap between utterances; '//' represents the point in one utterance where a subsequent overlapping utterance begins; ':' represents a stretched syllable)

Figure 1:
Segment of telephone conversation: Schegloff (1977, p81)

12. A: For *whom*.
13. B: Well he says- // he-
14. A: By what *stan*dard
15. B: That's what- that's exactly what I mean, he s-
but he says ...

What attracts Schegloff to this particular conversation segment is the occurrence of an interruption in line 13; earlier conversation analytic work has noted the comparative rarity of interruptions and so their occurrence immediately warrants study. Schegloff wants to know, therefore, precisely *why* the interruption occurred in this case and what *functions* it serves

Now, if this segment of conversation is decomposed along the lines suggested by Reichman, the following picture can be constructed for lines 5-11. First, B asserts that what is to follow captures the

'main difference' between him/herself and the teacher (T); this might be represented as a context space (possibly, due to the 'it comes down t' this' of line 4, serving a 'logical abstraction' or 'respecification' function[4]) that contains the proposition:

there exists a
such that main-difference-between (B, T, a)

B then goes on to further define that main difference with what may be a 'further development' conversational move that creates a context space containing the proposition:

a = { B *believes*:
there exists X
such that purpose-of-government (X) &
best-for-country (X),

T *believes*:
there exists X
such that what-government-should-do (X) &
right-or-wrong (X)
}.

It should also be possible to extend Reichman's view to represent that the beliefs of T are in a relation of 'directly challenging' the beliefs of B, capturing another level of organisation evident in this discourse.

However, at line 12 comes A's question: 'For *whom*.' This could most simply be represented as a context space containing some such proposition as:

query value of Y
in benefits (X, Y)

what then have to be identified are (i) the functional role of this

---

4. It is typical that very few of the clear clue-words Reichman lists actually appear when they are needed in an analysis to be able to label the functional role of a discourse segment unambiguously.

context space and (ii) the context space to which it relates. The second of these is easier to determine although the result is not entirely unproblematic. There is no clue-word of any kind employed and so there is no indication that the context space has altered. This should then link A's utterance to the teacher's challenge of B's beliefs; also, due to the *high focus* of 'what governments should do' (cf., e.g.: Reichman's rule F3, 1981, p121) the range of values for X may be restricted appropriately. As far as the functional role of the context space is concerned, two options appear most readily: first, the context space may function as a contribution to the teacher's challenge itself, as indicated by the link between their containing context spaces, and second, as a query *about* the teacher's challenge.

Pursuing the first of these does not offer much help in accounting for A's interruption in line 14. If B is taking sides with the teacher then to interrupt B before s/he can respond to the challenge can only serve to challenge again - although perhaps with a little more force. But then B's 'that's exactly what I mean' in line 15 is hardly compatible with a view which takes A to be challenging B's position; although, following Reichman's list of clue-words given above, the surface form of line 15 (... *but* ...) may render 'sub-argument concession' at least theoretically applicable at that point.

The second possible role of querying the teacher's challenge as B has expressed it seems more appropriate. Reichman does not concentrate upon the general right of conversationalists to ask

clarificatory questions however. Here again though the role of A's interruption remains unclear. B begins to answer A's question only to be interrupted by the question being put again. Furthermore, B's contribution at line 15 is strongly suggestive of B *sharing* A's question about the validity of the teacher's beliefs - a possibility not even suggested by the analysis so far.

In the end, the only path open to Reichman's type of account as it stands currently is to investigate the sets of beliefs of the three individuals involved so as to assess the most likely allegiances among them - thereby weighting the theoretically possible interpretations of A's utterances towards those most likely in this case. The need for this is further reinforced by the *lack* of surface detail that is available to the discourse interpretation process. Although this could always be increased, there is no *systematic* motivation for doing so provided by the framework itself. In contrast to this approach, the analysis of Schegloff that I will now describe centres throughout on a detailed consideration of the precise *form* of the discourse contributions produced and their *function* as sequentially-placed carriers of a conversation.

Schegloff claims that the reason for the interruption is in fact to be found in an inherent ambiguity in the contribution A makes at line 12. This ambiguity is not a 'theoretical' ambiguity of the kind observed above, i.e. an ambiguity that arises from two or more possible interpretations equally sanctioned by theory though perhaps only one of those interpretations is responded to by discourse

participants in any particular context: the ambiguity here is claimed to be 'empirical' in that both participants *actually respond* to both interpretations.

Schegloff sees this distinction between theoretical and empirical ambiguity as quite important because it allows him to argue that many of the so-called ambiguities which formal theories of language are inclined to study are simply artifacts of the method of analysis. By restricting the ambiguities dealt with to those which discourse participants also explicitly take into consideration, Schegloff hopes not to be misled into seeing problems of *choice* of one interpretation where perhaps no choice exists. This forces one, therefore, to examine more deeply *why* that choice does not exist.

Schegloff needs to show, then, the basis for a *real* ambiguity that would motivate the discourse sequence of lines 12-15 above. He does this by explaining two *sequentially*-oriented organisations that the conversation supports. Again, the importance of sequentiality rather than specific content is a central feature of conversation analytic approaches; the results of conversation analysis, therefore, automatically tend to provide content-independent characterisations that do not crucially rely upon undertaking a deep semantic analysis of the knowledge, intentions and beliefs of the individuals concerned. The first sequence Schegloff describes supports an interpretation of line 12's 'for *whom*' as a question, the second an interpretation as an agreement. Their details are as follows.

Schegloff notes[5] that upon a possible completion of a 'story' in conversation, a structural' position in the discourse is created for the recipient of the story either to display understanding of that story and a realisation that it has come to an end - thereby converting the possible completion into an actual completion - or to display misunderstanding or unwillingness for the story to end at that point - thereby prolonging the story-telling episode. This structural position makes it relevant for a story teller to attend to his/her addressee's utterance at a point of possible story conclusion as a potential disallowance of that conclusion. For example, one of the common ways of achieving disallowance is by means of a question and this justifies a speaker adopting the strategy of attempting to interpret an utterance at that point as a question *if s/he can*. This would provide the necessary 'independent sequential basis' [1977, p96] for speech act assignment required.

In the case at hand, there is evidence that the participants prior to line 12 are treating the discourse as a story-telling (for example, A limits his/her contributions to 'carry on' signals such as 'mmhmm', which is a standard way of displaying recognition that an extended turn is in progress). At line 12, a possible completion point is reached and it becomes relevant for B, if s/he can, to find a question in A's contribution. Furthermore, evidence for seeing a question is indeed available in the particular *form* of A's contribution. 'For *whom*' relies for its completeness on its being linked with the form of the previous contribution and, since that

---

5. Following Sacks (1972, 1975).

contribution was an expression of someone else's views, i.e. the teacher's, as reported by B, there are then good grounds for interpreting line 12 as a question requesting clarification by B of those views. This was the second of the theoretically-relevant interpretations reached in the Reichman style of analysis.

The second possible interpretation here arises out of the sequential organisation of the story itself. B's description of the teacher's views takes the form of an argument in which B and the teacher trade turns; this is reflected in the extremely common technique of rapid alternation of 'I said ...'-, 'he says...'-headed sequences. This makes available to A a further set of sequential relevances: those of the simultaneous alternation of turns and positions in an argument. Now, B's contribution in lines 9-11,

9. B: *He* says, governments, an' you know he keeps- he
10. talks about governments, they sh- the thing that
11. they sh'd do is what's right or wrong.

puts forward a turn of the teacher, expressing the teacher's view. Therefore, if the argument sequencing established previously were adhered to, the *next* turn should be a turn by B challenging that position. A, however, can also make use of this and, again by virtue of the dependence of line 12 on the form of line 11, produces a turn which may be interpreted as a *continuation* of the argument. A is then providing a piece of B's argument for B, thereby displaying an association with B's position rather than with the teacher's - effectively *agreeing* with B. Again, although it would be possible for the Reichman style of analysis to *state* this interpretation, *how it might be guided to it* by the shape of the discourse itself so that it

could be proposed is quite unclear.

One point of rather wider significance inherent in Schegloff's proposal, therefore, is that it provides a basis by which A's 'for *whom*' can be heard as part of B's position *without* needing to rely

> 'on intuitions about what that position would be if we extrapolated from what is given in the conversation, in order to find 'for whom' consistent with it.' [1977, p96]

In other words, this suggests a mechanism by which the detailed analysis of the content and intent of the utterances that occur in terms of situation-specific communicative plans of the individuals concerned - as exemplified in Reichman's style of analysis - may be rendered potentially redundant. Such a possibility, with its attendant simplification and generalisation of the discourse production/interpretation task, should not then be dismissed lightly.

All that remains here is for Schegloff to justify that his analysis does indeed bear some relationship to the activities of the discourse participants that throws light on the interruption that prompted the whole discussion; this is relatively easy. A's turn at line 12 is indeed interpreted by B as a question requiring clarification of the teacher's viewpoint. B's response:

13. B: Well he says- // he-

shows the standard extended answer-initial 'well' and begins with 'he says-' to clarify the information given at lines 9-11. But this is equally evident to A, which means that now *both* participants have achieved an orientation to line 12 as a question. However, A appears to have intended his/her turn to be an agreement, not a question, and

so, *as soon as it is clear* that B has misinterpreted A, A interrupts with an attempt to 're-do' his/her turn at line 12 with a functionally-equivalent

14. A: By what *stan*dard

which, again, links in *form* with A's contribution at line 11. This, by virtue of the interruption, informs A that his/her previous interpretation was not the one intended and also, by virtue of its similarity with line 12, gives A another opportunity to see how A's turn is to be taken. This time B correctly constructs the sequentially-relevanced agreement interpretation and acknowledges that agreement with an acceptance of A's proposed contribution to his/her (B's) argument:

15. B: That's what- that's exactly what I mean ...

In addition, *both* participants have now displayed an orientation in the discourse design to *both* possible interpretations and the ambiguity is shown as Schegloff claimed to be empirical rather than theoretical.

2.3 Summary

The principal considerations that should be drawn from this brief contrast of approaches at this point may be summarised thus. The conversation analytic approach suggests a view in which: (i) many problems of disambiguation may in fact be artifacts of inappropriate analysis; (ii) there seem to exist content-independent general mechanisms of conversation design; (iii) the specific, fine-grained *form* of discourse contributions may offer a positive resource for

structuring interpretations that has been underestimated previously; and (iv) a sequential basis for speech act assignment may be a potential rival for more complex and domain-specific, plan-based techniques. Each of these possibilities will be examined in depth by this thesis.

Although there is no doubt that these are significant points which are clearly relevant to the requirements and problems of any general account of discourse, the level of detail in even my abbreviated account of Schegloff's analysis may strike some as daunting: is it really necessary to treat discourse at such a low level in order to achieve the claimed generality of results? Do we really need to scrabble around in the micro-organisation of conversation, instead of being able to propose high-level (and grand looking) general planning mechanisms which would take care of the messiness of natural discourse for us? I believe the answer to these questions to be in the affirmative - it seems, and conversation analytic work makes this almost incontrovertible, that almost any level of idealisation away from the actual stream of language behaviour loses valuable information which discourse participants utilise in maintaining their understanding of what is occurring in the speech event. However, the current state of disarray in the area of linguistics concerned with dealing with the fine-detailed phenomena that appear relevant to conversation, text and discourse design is illustrated in the vast range of theoretical constructs proposed in this area as contrasted with the relatively few linguistic phenomena such constructs are intended to cover. As a

graphic display of the present state of the 'art', figure 2 below significantly extends the table of relevant constructs presented in Bates (1976, p168)[6] and lists the majority of the constructs that have been proposed to date.

In addition, as we have seen here, the problem is no nearer solution within cognitive science; in fact recently, Mann and Moore (1980, p27) came to the conclusion that, concerning the state of the art for the computational design of multisentence English text:

1. Every kind of relevant information is scarce - abstract principles, prior system designs, working precedents, useful algorithms are all hard to find.

2. Existing precedents (of any of these kinds) tend to be specialized to the particular environments in which they arose, and so they tend to depend on arbitrary combinations of conditions that occur only infrequently.

3. There is no theoretical framework useful to designers.

Of course, following upon the realisation of the importance of developing accounts of discourse and conversation, there is now an impressive concentration of research resources upon this problem. Yet, despite that concentration,, it remains the case that many crucial aspects of conversation have not been addressed and, consequently, an adequate general theory is still unavailable. This, I have suggested, is in fact largely a paradigm problem in that the wrong *sort* of answers are being proposed by superimposing social

---

6. And again in Bates and MacWhinney (1979, p176). It should also be noted that figure 2 only lists those constructs which have been used in the analysis of English; there are additional constructs of a similar nature which have been proposed in studies of other languages - see, e.g.: Meyer's (1975) treatment of coherence relations in German. The bibliography for figure 2 is presented separately as Appendix II. For a further review of the literature also see Kuno (1977).

goals upon linguistic organisation.

Therefore, in order to be able to gain a better insight into the working of natural conversation I believe that it is necessary to follow the lead of conversation analysis and to work very closely with the actual design of discourse contributions that speakers produce in context. However, I also believe that the necessary complexity that this entails can be made considerably more tractable by the articulation of a more appropriate formal linguistic account than those constructed to date. It is this eventual goal then that both motivates the research I describe and shapes my discussion of that research throughout this thesis.

(a) clausal/tonal constructs

term	*source*	*manifestation/definitions*
activated	Chafe:1976	given
antitopic	Chafe:1976	right-most elements, as for topics
assumed familiarity	Prince:1981	
background	Hopper:1979	verbal aspect marking
bound	Rommetveit:1974	
centering	Grosz,Joshi + Weinstein:1983	
clause	e.g.:Halliday,Pike,etc.	
comment	Sgall:1974 etc.	question-test results and contextual boundedness [p32]
	de Laguna:1927	
	Bates + MacWhinney:1979	

communicative dynamism	Prague:Sgall et al.:1973:p49.	question-test results, extent to which communication is 'advanced'[p24]
contextual boundedness	Prague: Sgall:1974	foregrounded shared knowledge [p25]
contrast	Kuno:1972,1975	see 1972: p269
conversational dynamic element	Firbas:1966	
conversational static element	Firbas:1966	
current	Yule:1981	elidable[p216]
displaced	Yule:1981	definite[p216]
empathy	Kuno:1975,1976 +Kabaraki:1977	reductions in 'acceptability' of sentences
established	Prague: Sgall et al.:1974	foregrounded by previous context
evoked	Prince:1981 Webber:1979	
exhaustive listing	Kuno:1972	p.269
figure	MacWhinney:1974	
focus	Kuno:1975,1980	'involves recognition of presupposed predication' [p445:fn10]
	Jackendoff:1972 MacWhinney:1977 Grosz:1977	new information
focus of contrast	Chafe:1976	(pseudo)cleft sentences accented
focus of interest	Zubin:1979	choice of grammatical relation
foreground	Hopper:1979	verbal aspect marking
free information	Heny:1971 Rommetveit:1974	
given	Halliday:1967 Chafe:1976	unaccented
	Brown:1982	unaccented, low pitch
	Prague Halliday:1967	left-most elements
	Halliday:1967	pronominalisation, repetition, recoverable
	Chafe:1976 Clark+Haviland:1977	definite,'identifiable'
ground	MacWhinney:1977	
inferrable	Prince:1981	
information focus	Halliday:1967	tonic: maximally moving tone
information unit	Halliday:1967	tone group: melodic unit
known	Chafe:1976	accented, definite, not pronominalisable,

		assumed to be known of by hearer but not given
neutral description	Kuno:1972	p.269
new	Prague:Sgall:1974	
	Halliday:1967	accented, not given
	Brown:1982	accented, high pitch
	Chafe:1970	
	Chafe:1976	right-most elements, indefinite
	Dahl:1974	
	Prince:1981	
	Clark+Haviland:1977	
old	Chafe:1970	
pause group	Chafe:1977,1980	speech segment bounded by hesitation
perspective	MacWhinney:1977	p.152
pragmatic peak	van Valin+Foley: 1980	definite, specific, given and focus of interest
predictable	Kuno:1972	
primary topicalization	Fillmore:1968	
question of immediate concern	Keenan+ Schieffelin:1976	p.344
rheme	Halliday:1967	not theme
	Kuno:1972	unpredictable
	Prague:Danes:1974	
second instance	Prague:Sgall et al.:1973	
secondary topicalization	Fillmore:1968	
sentence	e.g.:Chomsky	
speech act	Searle:1970	
subject	e.g.:Keenan:1976	
	Chafe:1976	
theme	Halliday:1967	left-most elements
	Kuno:1972,1976	predictable "as for x, p(x)" [1976:443:fn8]
	Prague:Firbas:1966, Danes:1974	
	Grimes:1975	p.324
	Sidner:1979	p.64
	Gruber:1967	
tied information	Heny:1971	
topic	de Laguna:1927	
	Keenan+ Schieffelin:1976	p.343
	Li+Thompson:1976	left-most elements, definite, need not have selection restrictions

		with the verb
	Prague:Sgall et al.:1973	question-test results and contextual boundedness
	Chafe:1976	
	Jackendoff:1972	presupposed information
	Venneman:1975	
unpredictable	Kuno:1972	

(b) discoursal constructs

term	*sources*
cohesion	Halliday+Hasan:1976 (including: reference, substitution,ellipsis,conjunction, and lexical)
context space	Reichman:1978,1981
element linkage	Kallgren:1978
episode	van Dijk:1982
exchange structure	Sinclair+Coulthard:1975
extended speech act	Mohan:1969
member	Coulthard,Montgomery+ Brazil:1981:p.34
paragraph	Longacre:1970, Paduceva:1974
paratone	Brown:1978
pragmatic perspective	van Dijk:1977 ("..appropriateness of discourses..." [p227])
rhetorical clause	Stratton:1971
rhetorical relations	Grimes:1975
rhetorical schemas	McKeown:1982
sentence connection	Kallgren:1978
thematic progression	Danes:1974
topic framework	Yule:1981
topic of conversation	van Dijk:1977 ("...HIERARCHICALLY ORGANISES the conceptual (propositional) structure of the sequence [of which it is topic]" [p134])
topic of discourse	van Dijk:1977 ("...a proposition entailed by the sequence of propositions underlying the discourse (or part of it)." [p137])
topic unit	Ellis:1966

Figure 2: Textual layer constructs 1
The theoretical constructs of discourse analysis

3. Summary of the organisation of the thesis

The overall structure of the thesis can now be summarised as follows. First, chapter one claims the necessity of treating language as a foundational phenomenon of an intersubjective social level of description only in terms of which can our behaviour be explained and then describes a linguistic framework that is fully compatible with this view. Chapter two goes on to explain both the status of discourse within that framework and to suggest the possible centrality of discourse as a linguistic phenomenon, introducing the account that is to be provided for discourse in more detail. Chapters three, four and five then build upon that introduction by developing the account proposed with specific reference to the analysis of some spoken discourse. This account takes the form of: (i) a set of linguistic 'structural patterns' whose deployment helps constitute extended sequences of topically coherent two-person discourse, such as those to which Schegloff's analysis above appealed, and (ii) the beginnings of a possible account for some of the contextual consequences of that deployment. Finally, chapter six brings the thesis to a close with a summary of what has been achieved, its consequences for the subsequent attempts to formalise conversation - both computational and otherwise - and a discussion of future development.

Chapter One

Requirements for an appropriate theory of discourse

1. Language as a foundational phenomenon

Kuhn's well-known discussion of the historical development of scientific theories in terms of 'paradigms' presents some ideas which are particularly relevant for cognitive science at this time. It will be recalled that Kuhn describes a paradigm as that implicit background of practices and assumptions which pre-structures investigators' views of scientific reality. This is taken to be a necessary feature of scientific investigation and, indeed, one which provides for the economical and productive deployment of research strategies.

> 'So long as the tools a paradigm supplies continue to prove capable of solving the problems it defines, science moves fastest and penetrates most deeply through confident employment of these tools. The reason is clear. As in manufacture so in science - retooling is an extravagance to be reserved for the occasion that demands it.' (Kuhn, 1962, p76)

And so,

> 'When the individual scientist can take a paradigm for granted, he need no longer, in his major work, attempt to build his field anew, starting from first principles and justifying the use of each concept introduced.' (*ibid.*, p19/20)

Within cognitive science doubt is sometimes expressed as to whether there yet can be said to be a paradigm. I think it is clear, however, that there *is* a paradigm - albeit one which is extremely

impoverished when compared with those of, for example, the physical sciences because it does little more than reflect some traditional philosophical positions adopted towards human intelligence and behaviour. This paradigm I will term the 'cognitivist' paradigm and, in recognition of one of its most significant philosophical forbears, it may be classified as 'Cartesian'.

Now, one of the beneficial properties of paradigms is that the expectations they generate and the depth of scientific investigation they support combine to bring about occasions when a prevailing paradigm can be seen to be inadequate. Such occasions Kuhn terms 'crises' since a replacement of paradigm amounts to a radical alteration in 'world-view': a situation not lightly entertained.

However, as Kuhn notes,

> "Without the special apparatus that is constructed mainly for anticipated functions, the results that lead ultimately to novelty could not occur. And even when the apparatus exists, novelty ordinarily emerges only for the man who, knowing *with precision* what he should expect, is able to recognise that something has gone wrong. Anomaly appears only against the background provided by the paradigm. The more precise and far-reaching that paradigm is, the more sensitive an indicator it provides of anomaly and hence of an occasion for paradigm change." (*ibid.*, p65)

It is here that doubts about the existence of a paradigm within cognitive science find more force because the cognitivist paradigm, as neither "precise" nor, in the positive sense implied by Kuhn, "far-reaching", cannot currently be expected to function as a sensitive indicator of anomaly. That is: empirical work undertaken within the paradigm may not be able to show unambiguously the existence of fundamental problems.

As a consequence of this, it has fallen to philosophers to debate the adequacy of the proposed paradigm, which they do with great vigour for the subject matter of cognitive science centres fairly and squarely around some of the most problematic questions to have been raised in the philosophy of mind and language. Furthermore, one of the most severe critics of the entire cognitive science enterprise has been Dreyfus who, sometimes likening cognitive science to alchemy, has concluded that

> "Current difficulties, once they are interpreted independently of optimistic *a priori* assumptions ... suggest that the areas of intelligent behaviour are *discontinuous* and that *the boundary is near*. The stagnation of each of the specific efforts in artificial intelligence suggests that there can be no piecemeal breakthrough to fully formed adult intelligent behaviour for any isolated kind of human performance." (Dreyfus, 1972, p214)

Indeed, he goes further:

> "We can then view recent work in artificial intelligence as a crucial experiment disconfirming the traditional assumption that human reason can be analyzed into rule-governed operations on situation-free discrete elements - the most important disconfirmation of this metaphysical demand that has ever been produced. This technique of turning our philosophical assumptions into technology until they reveal their limits suggests fascinating new areas for basic research." (*ibid.*, p215/6)

There can be no doubt that the scope and vehemence of Dreyfus's disapproval has done much to raise the temperature of the ensuing debate[1] and one consequence of this has been that, although his arguments are often mentioned, they are far less often understood as

---

1. Dreyfus's conviction that AI is philosophically unsound goes back a long way; see, for example: Dreyfus (1965). Also, Dreyfus (1979, 1981) show that he does not believe more recent developments to have altered the situation in the slightest.

---

2. See, for example, the critiques from Papert (1968) or Pylyshyn (1974).

well as they ought to be.[2] This is unfortunate because he does, in fact, raise some important theoretical and conceptual difficulties which will need to be addressed if genuine progress is going to be possible within cognitive science; some of these difficulties, and ones closely related, have now been discussed by Haugeland (1978), Searle (1980a), Winograd (1980), and Coulter (1979), (1983), among others. Furthermore, I have also discussed these issues in some depth in Bateman (1983, 1985)* in order to argue that language should be placed at a far more basic and central position in subsequent so-called 'cognitive' attempts to understand human intelligent behaviour in general and language in particular. Indeed, since many constructs proposed previously within cognitive science for the *explanation* of language (e.g. plans and knowledge) are, in fact, already dependent upon the existence of language, they cannot serve as explanations for language as is currently assumed. In an important sense, then, I am attempting to *reverse* the direction of explanation in many respects where language is concerned.

Now, since I have already discussed elsewhere at some length the more significant problems with what may be termed the 'cognitivist' assumption that underlies the cognitivist paradigm, i.e. that the way to explain intelligent behaviour, and particularly the use of language, is by means of a 'reduction' to a psychological domain of the cognitive processes of individual language users, I will not repeat that discussion here (although a detailed selection of the relevant literature has nevertheless been included in the bibliography for those who might be interested). However, the fact

* In Gilbert and Heath (forthcoming).

that my underlying aim throughout this thesis will be to produce a framework fully compatible with the position for which I have argued requires that, in order for this to be comprehensible, I need at the outset to sketch very briefly some of the basic tenets to which the revised paradigm for cognitive science I advocate commits us. In particular, I need to suggest why, and in what sense, I am maintaining language to be a 'foundational' phenomenon rather than one derivative upon cognitive-type processes.

This can be achieved most simply by the establishment of an important distinction between **personal** and **sub-personal** levels of description and explanation. On the one hand, the psychological or neurophysiological mechanisms which enable us to act intelligently are placed at the sub-personal level whereas, on the other, language phenomena help constitute the foundations of the personal level. The advocated reversal of direction in explanation then amounts to the claims that many constructs and phenomena previously assigned to the sub-personal domain are, in fact, more appropriately considered at the personal level and that that personal level is crucially dependent upon the existence of language.

This is supported by a further, equally important, property of the personal level that substantially affects the status and form of theories concerning it; that is, it is not essentially personal at all - it is *inter*-personal. At the level of description appropriate to the personal level, theoretical constructs are inherently *social* in that they *already* transcend individual organisms and give rise

subsequently to individual subjectivities from a position of inter-subjectivity. Here I will be assuming that it may be justified that the sub-personal comes to exist as it is, both evolutionarily and developmentally, precisely in order to support the mechanisms of the personal level and, therefore, it is to set oneself an unnecessarily difficult task if one studies sub-personal functioning without any account of the reasons why the sub-personal is as it is, i.e. without an account of the personal level. I will assume further that intelligent human behaviour can in fact only arise out of that personal level since people's action in the world is based upon their understanding of that world, of others in that world, and of their own place in that world; all of which are personal level constructs. Thus: the best account of human 'intelligent' behaviour is one which makes such an understanding clear in its functionality for people as social beings. Such an understanding is *always* social - socially established, socially transmitted, etc. - and it is here that the true centrality of language resides.

Intersubjective 'understanding' is under this account then no longer an agreement of substantive issues 'internalised' within the 'subjective stocks of knowledge' of participating subjects. On the contrary, it is to maintain that understanding

> 'appears in our analysis of action rather than in the heads of actors, and it appears as a necessary condition of the actor's occurrence, rather than as a report of what happened 'out there'.' (Bauman, 1978, p178)

This is a point also made by Wittgenstein in the following terms:

> 'Try not to think of understanding as a 'mental process' at all.- For *that* is the expression that confuses you. But ask yourself: in what sort of case, in what kind of circumstances, do we say, 'Now I know how to go on...'' (Wittgenstein,

1974/1958, p61)

The 'processes' of understanding under this account are *those methods by which members of societies come to accept that there is shared agreement* - the further, individualistic, step of claiming that this involves *actual* sharing of the same internal substantive issues, 'concepts', or whatever is unnecessary and unwarranted.

This somewhat counter-intuitive viewpoint may be clarified by the following brief discussion and simple examples. There is no doubt that one particularly important aspect of human behaviour is the construction of 'folk-psychologies' that render behaviour intelligible. But the reasons why the sub-personal is as it is are not then to be found in any available folk-psychology, e.g. standard folk-psychological constructs no matter how formalised they might be, because such accounts are omitting an all important intermediate step. It is only in the sociological elucidation of the construct 'person' that has building folk-psychologies as one of its many possible activities that all such activities, psychologising included, may be explained. Furthermore, since that elucidation shows language to have a central position, it may indeed be claimed that belief and planning talk is to be properly subjugated by language talk; the former is seen purely as a result of the latter while it is the latter that represents the mechanisms, processes, or whatever that provide the functional organisation and motivation for the sub-personal being as it is. It is only at a derived level of description therefore that plans and the like reside. The mechanisms of language use which provide for such derived levels of explanation,

even though they do not correspond to the 'psychological' reality of a sub-personal description, are nevertheless *explanatory* in that our intelligent behaviour is only to be 'explained' by reference to those social intersubjective 'processes' by which its meaningfulness is constructed.[3] In short, what the explanatory personal-level account has to capture are the "conventionalities and constraints" (Coulter, 1983, p128) which give rise to *displays* of an always presupposed social order. If an account of such constraints on intersubjective behaviour *in general* were achieved, then this would offer an *explanation* for attendant intelligent, relative-rational, socially-accountable ways of behaving, including the construction of psychologies.

The personal level acquires explanatory status, therefore, precisely because the social world is not considered to be built up at a sub-personal level. Although the sub-personal has to achieve situated ways of behaving which provide evidence for the existence of an external, 'objective', social reality, within the sub-personal level the abstractable regularities of that objective reality are dissolved by the "uniqueness" of the individual. Personal-level accounts are then needed to *explain* the regularities of personal-level behaviour, while sub-personal accounts are needed to

---

3. I should note here that the position I am advocating will remain generally hostile to using 'planning' in the same sense for both people and animals. Clearly, however, certain animals do manage to 'plan' in some sense and so the questions can be raised: (i) in what sense is it that animals manage to plan? And (ii) are there then similar areas of planning to be found within human behaviour which, therefore, would also not require the support of language? These interesting questions will have to remain unanswered here however.

explain how the behaviour of the personal level is achieved *once relevanced*. Two brief examples of this division of labour in explanation are as follows.

First, if one examines the neurophysiological make-up of an individual then, presumably at some future stage in neuro-science, there will be isolable 'mechanisms' which are causally-responsible for the particular fact that there will be preferred ranges of distances to be maintained from fellow conversationalists in the face-to-face situation. However, the reasons that there are preferred ranges will not be found in the neurophysiological system. This can only be explained by reference to distances which are imbued with social significance by the interactions of the personal level. The personal level account explains why a certain distance in a particular situation is preferred - in terms of consequences for future actions and the accountability of such actions; the sub-personal account explains how that behaviour, *once relevanced*, is being achieved. The type of account which is to be seen as explanatory therefore depends strictly upon the purpose the explanation is to serve.

Returning to language proper for the second example: any everyday talk of the personal level concerning, for example, beliefs, desires, knowledge, etc., i.e. folk-psychology, forms part of a systematic way of talking that entails accountable orientations to behaviour which is hence rendered intelligible for the users of that talk.[4] This is a generalisation of Dennett's (1978) intentional

system stance to include any folk-psychology. Now, (since at the essentially 'anonymous' level of social description at which language resides the 'I' is not, in the most part, differentiated from the 'Other'; cf. Heidegger (1962/1927, p154)) one can orient to one's own behaviour in the same way; i.e. one 'understands' oneself in the terms of the folk-psychology. But does one then 'have' beliefs, knowledge, or whatever which the psychologist can profitably investigate? No, of course not: what one 'has' is simply a way of speaking. The folk-psychological constructs are quite accurately described as 'ghosts of linguistic practices', albeit extremely active ghosts.

Note furthermore that what the personal level has to explain here is this way of talking in terms of 'having' beliefs, knowledge, etc. And, since these are just ways of talking, it is appropriate that language has indeed been singled out as central. Also, the sub-personal account does *not* have to explain the 'how' of 'having' beliefs, knowledge, etc. because this is a purely derivative phenomenon already explained in principle by the sub-personal explanation of how any way of talking is possible. To risk a computational analogy, the 'explanation' of the functioning of the machine hardware should not be called upon to explain the syntax of the higher-level languages that machine has implemented upon it.

The practical consequences of this viewpoint manifest

---

4. See Coulter's (1983, pp127-146) related discussion of, for example, "'Thought' avowals as sequential and illocutionary operators".

themselves in the status of proposed theories and in the courses of possible explanation that are admissible at the personal level. Regularly occurring uses of language are to be explained, whenever possible, not by describing them to be instances of speakers' intentional deployment of linguistic knowledge so as to achieve goals in their personal plans constructed for achieving conversation, but instead by describing linguistic resources in terms of the consequences they may have on the 'context' - already intersubjective and including those who participate in it - in which the resources are deployed. Thus, it is being claimed that to 'internalise' statements concerning linguistic issues so as to make reference directly to some assumed area of psychological relevance is in general quite unnecessary and can seriously distort our appreciation of what is occuring.

This is to establish a further perspective to the dichotomous 'processor-centric' versus 'omniscient' ways of viewing language use that have been proposed previously. The omniscient view, the so-called 'god's eye-view' attitude, is one which has been adopted in many traditional formal logic accounts of language, while the processor-centric viewpoint is that regularly adopted in cognitivist accounts, usually on the grounds that it corresponds more closely to 'reality'. Problematic with processor-centricity, however, is how individual processors get to share anything sufficiently for intersubjective understanding to be possible. The third possible perspective, which I have proposed we adopt, is the intersubjective viewpoint. This claims that that which needs to be shared for

intersubjectivity to be possible *is already* shared; this is made possible by the social level of description's essential *anonymity* - it applies equally to all. Subsequently, however, distinctions and differences can be introduced as deviations from the anonymous account so as to bring about specific individual orientations. Importantly, it is the social which is logically prior and so we need an account of this *first* if appropriate regularities are to be uncovered.

As we shall see more clearly below, this intersubjective approach relies upon the organisational strata of language and context being bound together very closely - in particular, it is assumed that it is only out of an appreciation of the *structure* of discourse and interaction that a correct understanding, i.e. a correctly *structured* context, is both maintainable on, and in turn maintains, the intersubjective plane within which language operates.

All of the linguistic resources I propose below are to be interpreted in this way. They are properties of situations rather than individuals and can, therefore, bring constraints to bear on many individuals simultaneously, thereby defining the limits within which those individuals must work without needing to delve into details of individuals' plans. This is to be remembered most when resources are proposed which resemble their cognitivist counterparts - one particularly clear example of this will be the treatment of 'focus' in chapter four.

It is, in fact, to be expected that many similarities will be found between intersubjective accounts and their corresponding cognitivist versions. But this is *not*, in general, because of any inherent appropriateness of the cognitivist approach. What is really going on in such cases, again as I have argued elsewhere, is that the so-called cognitivist accounts are already essentially social but their status as such has not been grasped. The intersubjective approach, however, both allows us to see such mechanisms for what they are, thereby significantly improving our chances of understanding them more appropriately, and offers us the means of integrating them into a more comprehensive framework *without* distorting their basis as social phenomena.

With this very general statement of the underlying principles of the revised paradigm, it is now possible to move on to consider in more depth the kind of theory it suggests to be appropriate for dealing with discourse. I will proceed via a discussion of a sociologically-based school of thought that shares many of the principles I have described and claimed to be relevant - i.e. 'ethnomethodology' - and the approach to discourse that has arisen within it. This will establish more strongly the particular perspective I will be taking on language throughout this thesis.

2. Ethnomethodology

For ethnomethodologists there is no possibility of explaining human behaviour in a context-free, objective way. It may be possible

to describe it, for example in terms of physical actions, but by leaving out precisely what makes any action *relevant* and *appropriate* for its context, such descriptions are taken to be fundamentally nonexplanatory; they are, literally, *ir*relevant. Garfinkel, one of the leading developers of this viewpoint and the inventor of its name, uses the term 'ethnomethodology'

> 'to refer to various policies, methods, results, risks, and lunacies with which to locate and accomplish the study of the rational properties of practical actions as contingent ongoing accomplishments of organised artful practices of everyday life.' (Garfinkel, 1967, p11)

Ethnomethodologists therefore focus

> 'on the manner by which individual actions construct particular social scenes so as to provide one another evidence of an objective, taken-for-granted reality.' (Johnson, 1977, p159)

Furthermore, the most powerful kinds of action for 'the social world's situated construction' (*ibid.*, p160) are those which are linguistic.

Appropriate theories of this personal-level domain can, as I claimed above, be seen to be *explanatory* for that domain in ethnomethodological terms for the following reason. All ethnomethodological accounts argue convincingly that individuals' accounts exhibit a constant orientation to displaying the accountable rationality and reasonableness of their actions. That is, in every action, societally-provided norms are skillfully achieved so as to provide evidence to 'Anyone' who is a member of the culture that the action is being performed appropriately with respect to some background of taken-for-granted practices which renders it meaningful, understandable, and relevant. There is no need, then,

even to attempt to make that background fully explicit as is typically required by a cognitivist account. The background is always made as explicit as needs be for particular purposes and situations by virtue of the evidence provided in members' situated practices. As members, they 'know' how acting in certain ways is sufficient; by having so acted they cannot be claimed by others to need to explain themselves (Garfinkel, 1967, p31). Only in cases of 'break-down' need further details be forthcoming and then, again, only so many as necessary for repair.

Accordingly, we can see the role played by sub-personal mechanisms, be they neurophysiological, psychological, or hydraulic, to be one of 'enabling' individuals to exhibit the skills required for *providing evidence* that what they do makes sense. These skills are *social* norms and, as such, are akin to norms for lengths of unfilled hesitations in speech, for the distances to be maintained between conversationalists of varying relationships in face-to-face interaction, for extensive gestural accompaniment to speech, for not talking with one's mouth full, for talking with one's mouth full, for loudly slurping one's noodles, for nodding one's head in disagreement, etc. etc. The appropriate level of abstraction to capture the necessary regularities here is that of the personal level; only given the unifying nature of the 'mechanisms' described at that level can sense be made of the - at the sub-personal level unmotivated - mass of detail that is to be found in the physically-causal mechanisms underlying.

The particular value of evidence-providing skills then is precisely that by virtue of their use a shared background of meaningful practices is constituted. But, all importantly, that sharing lies in the adherence to ways of acting in situations, in 'grounded practices', rather than in the sharing of explicit conceptualisations. There is an important sense, then, in which what it *means* to say of a community that a common language is spoken is that the members share a set of skills for acting in context which display both the intelligibility of the contexts and the rationality of the actions. The ever-present orientation to such displays hence 'maintains' the appearance of a rational social background that the community shares.

This again brings us to the domain of phenomena for which personal-level accounts may provide explanations - indeed, for which *only* such accounts may provide explanations. The accomplishment of a shared, (relative-)rational, social world in which it makes sense to discuss beliefs, knowledge, intentions, etc. is only to be found in the situated practices of the members whose accomplishment it is. Achieving accountable orientations to behaviour so as to render the behaviour intelligible is not, however, work which societal members may shirk; that achievement is inherent in all their ways of acting - this is the result of socialisation and the apparent centrality of this process for being human. Nevertheless, the achievement is a "contingent, ongoing" accomplishment brought about by the efforts of members. Established folk-psychologies tend to be 'accurate' then, i.e. of reasonable predictive power, not necessarily because they

accurately reflect sub-personal processes and hence capture causal mechanisms, but because members invest considerable effort in *making them work*. Many psychological accounts of language are therefore in actuality better construed as mistaken attempts to recast socially-motivated interactions as cognitively-motivated underlying processes.

This is brought out quite clearly in Dennett's (1978) discussion of the 'ideal' believing system where he seeks to establish a basis for the alignment of personal level organisations purely in terms of rational conduct thereby dissolving the problem of 'intersubjectivity'.[5] In this discussion he claims that

> "When we are in a position to ascribe the single belief that p to a system, we must, in virtue of our open-ended expectations of the ideal believer-that-p, be in a position to ascribe to the system an indefinite number of further beliefs, desires, etc." (Dennett, 1978, p26)

In a curiously ethnocentric fashion Dennett does not draw attention to the essential role of society in sanctioning precisely which "further beliefs, desires, etc." are to be expected. The "normative cast" to belief-talk can be made "honest", not just by "excellence of design" (*ibid.*, p27), but also, and perhaps more often, by members' efforts to make it such. Furthermore,

> Once sight is lost of the mundane observability of such [intentional] states of affairs, it becomes very easy to make the unwarranted leap and argue that such predicates label (albeit indirectly) neural, computational or 'mental' events, states and processes instead of signal states of affairs in the intersubjective world." (Coulter, 1983, p162)

In short, people will act rationally by virtue of their design to act to display orientation to norms, *not* because they have been endowed

---

5. This problem is discussed more fully in Bateman (1985) - which is to be found in Gilbert and Heath (forthcoming).

with excellent design for 'rational' behaviour as such. Rationality is a social construct and excellence of design can therefore be social as well as 'objective-functional'.

Unfortunately, even though sociology has of necessity concerned itself with this social order we observe around us which provides for that perceived orderliness and comprehensibility that makes human existence possible, Garfinkel, in establishing the ethnomethodological perspective, argues that sociology as a discipline has in fact failed to make this social order sufficiently problematic as a phenomenon in its own right. That is,

> 'Despite the topic's centrality, an immense literature contains little data and few methods with which the essential features of socially recognized 'familiar scenes' may be detected and related to details of social organization. Although sociologists take socially structured scenes of everyday life as a point of departure they rarely see ... the general question of how any such common sense world is possible. Instead, the possibility of the everyday world is either settled by theoretical representation or merely assumed. As a topic and methodological ground for sociological inquiries, the definition of the common sense world of everyday life, though it is appropriately a project of sociological inquiry, has been neglected.' (Garfinkel, 1967, p36)

In order to rectify this situation and to begin to make some contact with those situated practices by which the social world is presumed to be accomplished and in terms of which, therefore, explanations at the personal level are to be couched, Garfinkel undertook a series of studies aimed at revealing some of the properties of this taken-for-granted common sense world of everyday life. His method was to investigate ways in which the smooth functioning of background expectations might be disrupted, i.e. the

'taken-for-grantedness' of the everyday life-world was to be made problematic so that the phenomenon itself might be focussed upon as an issue and the evidence-providing skills of societal members made visible.

One of these studies[6] which is particularly effective and relevant to my development of an account of discourse ran as follows. Garfinkel set a group of his students the task of reporting conversations in which they had taken part by writing both what was literally said and, along side, what was understood to have been said or communicated by each utterance. For example, part of a conversation was reported thus:

'HUSBAND:	Dana succeeded in putting a penny in a parking meter today without being picked up.	This afternoon as I was bringing Dana, our four-year-old son, home from the nursery school, he succeeded in reaching high enough to put a penny in a parking meter when we parked in a meter parking zone, whereas before he has always had to be picked up to reach that high.
WIFE:	Did you take him to the record store?	Since he put a penny in a meter that means that you stopped while he was with you. I know that you stopped at the record store either on the way to get him or on the way back. Was it on the way back, so that he was with you or did you stop there on the way to get him and somewhere else on the way back?'

(*ibid.*, p38/9)

Garfinkel then made this task progressively more difficult by asking his students to make their explanations ever more complete. His final aim was to be able to recover what the conversationalists had actually talked about 'only from reading literally what they wrote

---

6. For others, see Garfinkel (1967); while for more detailed introductions to ethnomethodology generally, see: Turner (1974).

literally' (*ibid.*, p26). The students at this point typically gave up and complained that the task was impossible: impossible not because there seemed to be some bounded area 'made so vast by pedantry that they lacked sufficient time, stamina, paper, drive or good reason to write 'all of it'' (*ibid.*) but, instead, because the very way the task was set up seemed to guarantee that *whatever* they wrote could be found to be incomplete if the reader were so inclined.

Garfinkel suggested that the way this should be seen is as follows. Rather than considering the explications of what was 'actually' said as the 'contents' of what was said, they could be regarded better as attempts to furnish instructions for recognising what the parties were 'actually and certainly saying.' (*ibid.*, p29) Instructions which, furthermore, were required to 'withstand every exigency of situation, imagination, and development.' (*ibid.*, p30) In other words, Garfinkel had asked his students to formulate rules which had succeeded in freeing themselves from the sociocultural settings both of the conversational participants and of the reader of the rules.

It should be noted that this is precisely the task that the theorist working with the constructs of knowledge representation takes on; in order to formalise a knowledge representation it is necessary for it to be autonomously specifiable. Yet Garfinkel's point is that it is only each conversational participant's taken for granted assumption that the other is operating within a similar sociocultural setting that supports the entire enterprise of mutual

intersubjective understanding. No matter how literal the rules might become, they would still fall back upon the shared understanding of the writer and reader because it is only by sharing in the intersubjective world of a human society that an individual is able to communicate with and understand those around him or her. Therefore, from Garfinkel's perspective, to undertake such a formalisation is to miss what should, in fact, have been the main object of inquiry: the taken for granted background scheme of expectations which makes understanding possible.

Such expectations should not, however, be construed as a means of deducing what was really and actually said in any utterance, i.e. the 'meaning' of the utterance in some context-neutral sense. They instead are what permits the process of 'glossing' what was said to take place and this process, as suggested above, is essentially boundless. As long as there is some motivation for continuing the process, there will be more to say. A more important role for the background expectations is to permit 'actual appearances' to be "recognizeable and intelligible as the appearances-of-familiar-events." (*ibid.*, p36) Such recognisability and intelligibility of familiar events generally make it unnecessary and, indeed, inappropriate to undertake explicit glossing activities when participants are involved in real conversations.

> "For the purposes of *conducting their everyday affairs* persons refuse to permit each other to understand "what they are really talking about" in this way. The anticipation that persons *will* understand, the occasionality of expressions, the specific vagueness of references, the retrospective-prospective sense of a present occurrence, waiting for something later in order to see what was meant before, are sanctioned properties of common discourse. They furnish a background of seen but unnoticed features of common

> discourse whereby actual utterances are recognised as events of common, reasonable, understandable, plain talk.' (*ibid.*, p41)

By adhering to these unstated but ever present resources for organising talk, conversational participants can rest assured that they are entitled to assume that they will be 'understood' by others.

'Understanding' therefore again comes to signify not the sharing of conceptualisations but the possibility of responding appropriately according to the social methods available for *displaying* various orientations to what has gone before. This can make no appeal to common conceptualisations of the 'meanings' of utterances because, as Garfinkel argues, the process of obtaining such meanings is as boundless as that of providing glosses. The availability and precise construction of appropriate responses does not itself rely upon a gloss having been achieved; indeed, reaching a gloss or a meaning is only possible on the basis of an understanding of 'appropriate' responses.

Central to this account, then, are the methods by which societal members display the rationality and accountability of their actions, talk included. Furthermore, these methods may be regarded essentially as 'features of the talk by which such accountability is told'; this means that, for ethnomethodologists also, language can justly take on a crucial role. They must study how talk is constructed in order to display its rationality and appropriateness to its context of use while simultaneously extending that context in meaningful directions - this constitutes the ethnomethodological

study of discourse that has come to be termed 'conversation analysis'.

3. Conversation analysis

From its roots in ethnomethodology conversation analysis inherits basic tenets in two main areas: the relationship between language and context and the kind and extent of the formalisation considered appropriate for capturing the resources of conversation construction. Clearly both of these are central in current attempts to explicate the nature of discourse.

First then, the essential 'indexicality' of uses of language makes a constant orientation to the question of context inescapable in studying language: conversation analysis must always concern itself with the *situated* use of language. Part of what Garfinkel deduces from investigations such as the one cited above is that any glossing procedure must make *essential* reference to the context. That is, for most utterances

> 'their sense cannot be decided by an auditor unless he knows or assumes something about the biography and the purposes of the speaker, the circumstances of the utterance, the previous course of the conversation, or the particular relationship of actual or potential interaction that exists between user and auditor. The expressions do not have a sense that remains identical through the changing occasions of their use.' (1967, p40)[7]

This finds expression in conversation analysis as follows. Utterances from natural conversations are assumed to be both 'context shaped' and 'context renewing': each utterance cannot be considered except in the context which gave rise to it and each utterance cannot help but

contribute to the context which will form the basis of interpretation for subsequent utterances. It should be noted that this property of utterances is inherent also not only in the Firthian and Neo-Firthian branches of linguistics that will be of concern below, but also in many very recently formulated accounts including, most significantly perhaps, Barwise and Perry's 'situation semantics',[8] which is currently attracting much attention, as well as the discourse model and mental model approaches that, as was shown in the introduction, are now widespread. For the ethnomethodologist, an understanding of speech 'acts' as functions from contexts into contexts has long been a commonplace and so it remains unfortunate that their results have not hitherto been more widely studied.

One aspect of the context with which ethnomethodologists are particularly concerned provides a foundation for the other main area of conversation analysis: the investigation of the methods employed for conversation construction. Understanding the contribution an utterance makes to the conversation as a whole must include reference to the "immediately local configuration of preceding actions ... in which it participates." (Heritage, forthcoming.a, p2) This aspect of the context leads to the initial 'formalisations' that have been offered for conversation-organisational resources, the most basic of

---

7. This is, of course, in conflict with those current views of natural language semantics which would have a specific semantic content associated with each surface syntactic form - that semantic content often being derivable according to strict formal operations obeying the principle of compositionality; this issue will be addresseed further below.

8. See, for example, Barwise (1981), Barwise and Perry (1981, 1983), Evans (1982), Israel (1983).

which is the 'adjacency pair' of Schegloff (1968) and Schegloff and Sacks (1973).

This construct relies upon the segmentation of talk into 'turns', each turn typically being the responsibility of a single participant in the conversation and disjoint from the turns of other participants. The detailed study of the organisation of turns in naturally-occurring conversations received its first major treatment in Sacks, Schegloff, and Jefferson's (1974) proposed 'simplest systematics' for turn-taking where, from an extensive study of conversation, Sacks, Schegloff, and Jefferson conclude that speaker turns are built from 'turn-construction units' which are based around stretches of language with some syntactic integrity, e.g. clauses, noun phrases, words, etc. These units define 'transition relevance places'; these are points in the discourse at which a possible turn-construction unit ends and towards which, by virtue of their structural 'projectability', speakers can orient themselves and time their entrances accordingly.

This is necessary because speakers appear overwhelmingly to make their entrances into, and exits from, conversations with very little 'overlap' of turns; attempts by more than one speaker to hold the floor simultaneously are comparatively rare. When two or more speakers do happen to attempt turns simultaneously the usual result is that all but one speaker will generally stop speaking, thereby preserving the principle that only one speaker will speak at a time. In order for speakers to effect their entrances and exits so cleanly

some degree of prediction on structural grounds seems inescapable. At certain points a change of speaker becomes a relevant issue and, unless special provisions are made within the preceding turn, the first to speak at these points will usually obtain the right to hold the floor for the subsequent turn, i.e. at least one turn-construction unit.

This strong organisational influence has many further effects. Since speaker transition relevance points will occur, and speakers can orient towards these points and project their future occurrence, speakers can also take this into account when constructing turns so as to organise their interaction more effectively. Indeed, Sacks, Schegloff, and Jefferson argue that this orientation to speaker turns is responsible for not only the deployment, but also the development, of many of the resources that are available for syntactic organisation. As they write:

> 'It is expectable, then, that some aspects of the syntax of a sentence will be best understood by reference to the jobs that need to be done in a turn-in-a-series, turns being a fundamental place for the occurrence of sentences.' (1974, p723)

Each turn at talk needs to accomplish some minimal conversational 'work' that makes that turn responsive to its position in some particular sequence of turns in a conversation.

> 'Turns display gross organisational features that reflect their occurrence in a series. They regularly have a three-part structure: one which addresses the relation of a turn to a prior, one involved with what is occupying the turn, and one which addresses the relationship of the turn to a succeeding one.' (*ibid.*, p722)

Part of the motivation for language developing the highly structurally-cohesive entities typically described by syntax,

therefore, is that such entities demarcate a recognisable portion of talk within which the speaker can achieve the minimally necessary interactional work, interruptions being clear as such due to the projectability of what is occurring on syntactic grounds; this is also dealt with by Jefferson (1973). There has not, however, been any extensive formalisation of just what interactional work is achieved by the deployment of particular syntactic resources and I will return to this issue in principle in section 6 and in detail in chapter four.

The line of investigation principally followed by conversation analysts concerns the types of communicative acts that turns may carry considered in terms of their effects upon the sequences of turns in which they occur. That is, a turn can influence the types of turn that may follow it by bringing strong constraints to bear on the interpretations that the context created by the turn may support. Conversation analysis thus attempts

> "...to discover the systematic properties of the sequential organisation of talk, and the ways in which utterances are designed to manage such sequences." (Levinson, 1983, p287)

The adjacency pair offers then the simplest example of a sequential organisation that is regularly employed in conversation. It consists of two parts, a first pair-part and a second pair-part. The first pair-part establishes a context of interpretation which strongly constrains the reading to be given to the turn which follows. Whatever actual turn follows it will of necessity be considered in the light of the expectations established by the first

pair-part. Based upon this creation of expectations across a two part sequence of turns is the notion of 'conditional relevance': the first pair-part "provides for the relevance of the occurrence" (Schegloff, 1972, p76) of the second pair-part. If the second pair-part does not occur, then it is *missing*, i.e. the expectations established by the prior turn have not been fulfilled.

While perhaps the most obvious type of sequence conforming to the adjacency pair organisation is the question-answer pair, a number of other sequence-types which conform to the basic adjacency pair pattern have now also been studied. Typically, each type allows for a distinctive range of first pair-part realisations and appropriate second pair-part responses. For example, greetings and farewells yield pairs such as "Hallo - Hallo", "Goodbye - Bye", etc. in which the selection of some closed set lexical item or phrase of the appropriate kind calls for and relevances a response drawn from that same set. Similarly, summons-answer sequences are usually constructed from an attention seeking first pair-part, such as a name, and a second pair-part showing that the second speaker is available for further interaction, e.g. "Yes". In each of these cases the turn-taking mechanism operates in essentially the same way. A turn is constructed so as to be a recognisable first pair-part of a given type of adjacency pair and this then makes relevant and expected the subsequent occurrence of a turn constructed according to the specifications appropriate for a second pair-part of that particular type of adjacency pair.

It has proved possible to extend the simple adjacency pair format to cover more complex sequences also. One such extension is the 'insertion sequence' described by Schegloff (1968, 1972), in which a question-answer pair may have a further question-answer pair embedded, or inserted, within it; for example:

'A: Are you coming tonight?
B: Can I bring a guest?
A: Sure.
B: I'll be there.' (Schegloff, 1972, p78)

or, in theory, even:

'A: Are you coming tonight?
B: Can I bring a quest?
A: Male or female?
B: What difference does that make?
A: A question of balance.
B: Female.
A: Sure.
B: I'll be there.' (*ibid.*, p78)

The deployment of the turn-taking resources in these kinds of contexts enables quite complex sequences of interaction to be orchestrated by the participants involved and now several 'higher' level components of conversations have been studied, including, for example, 'openings' and 'closings'. Conversations will not usually start with a main topic of discussion but will tend to be opened more indirectly - first a greeting may be given, followed by polite inquiries as to the health of the participants, and only then (and even then not necessarily), these preliminaries being safely accomplished and the availability of the participants for further talk ensured, will the conversation proper begin. Similarly a conversation will tend not to come to an abrupt end but will move towards a position where all the participants know that the end has

arrived and a farewell is appropriate and will not be considered rude or out of place by its recipients. Conversational work has to be expended both to get a conversation established and to bring it to a successful, mutually-acceptable conclusion;[9] the operation of the turn-taking mechanism can only be started up and then closed down by the conversational participants' own efforts.

The necessary bringing into alignment of expectations this involves has been approached in conversation analytic terms by a consideration of 'pre-sequence' objects. These are stretches of interaction which prepare the ground for agreed sequences to follow; without that agreement having been reached interaction could not be synchronised as well as natural conversations clearly are. Thus, prior to the closing segment of a conversation, there may be a pre-closing segment which gives the participants the opportunity to postpone the closing segment if they have further topics to discuss. This will normally take the form of several turns in a sequence which do not add any substantive content to the topics already under discussion nor suggest any further topic to which the talk could turn. For example:[10]

'Ma: pt. Oka:y=
Kiddo: =Uhri:ght.=
Ma: What else,
Kiddo: Noth:in'
Ma: Ok:ay.= ' (Button and Casey, forthcoming, p28/9)

---

9. Schegloff and Sacks (1973).

---

10. This segment of talk again demonstrates the format favoured for transcripts by conversation analysts. The conventions are as for figure 1 of the thesis introduction; i.e.: ':' signifies a lengthened syllable and '=' indicates 'latched' utterances, i.e. utterances from two speakers produced with no gap between them.

Several other types of pre-sequence have been discussed in the literature and I will mention some of these again below or in later chapters; they include pre-invitations, pre-requests, pre-arrangements, and pre-announcements.

Pre-sequences, and especially pre-requests, form the basis of an alternative analysis of indirect speech acts which has been developed by Levinson (1983) as a demonstration of how the conversation analytic approach can dissolve certain traditionally problematic issues by offering an arguably more appropriate view of the functioning of conversation in which the problems simply do not arise. Indirect speech acts have attracted much attention in the past because of the difficulty experienced in achieving any principled and general account of how, for example, 'can you pass the salt?' results in salt being passed rather than in an answer being given to the question. In other words, how is it that the apparent 'literal' illocutionary force of an utterance can apparently have some other illocutionary effect? Levinson does achieve a general solution to this problem and, furthermore, he does so without introducing any special mechanisms additional to those generally already found in conversation analytic accounts.

Levinson's approach is to show how indirect speech acts can be seen as initiating four-part sequences which are conventionally collapsed under particular and quite predictable conditions to three- or even two-part sequences. The full, unshortened sequence consists of a pre-request, a go ahead, a request, and a response and are

exemplified in segments of talk such as:

A: Hi. Do you have uh size C flashlight batteries?
B: Yes sir
A: I'll have four please
B: {turns to get them}
(cited by Levinson, 1983, p357)

Levinson proposes, following a suggestion of Schegloff, that the absolute sequential location in a sequence of turns should be distinguished from a functionally motivated characterisation of sequential location as, for example, a response relative to a preceding, but not necessarily immediately preceding, initiating turn. There are clearly good grounds for this; Schegloff's insertion sequences rely upon the functional position of turns being identifiable rather than absolute location and conditional relevance need not then be restricted to *immediately* sequential terms. Indeed, for analysis to be possible the *function* of turns will need to be sufficiently well signposted to permit their functional interpretation to take place. Such interpretations will, of course, be sensitive to their sequential environment but they must, nevertheless, show themselves to be appropriate candidates for the functions sequentially relevanced.

In this particular context, this has the consequence that, if a pre-request signals its function clearly, then the entire pre-request talk trajectory is projected for the participants and they can respond to this even before the sequence has been played out. Thus, if there is the situational motivation, the trajectory could be altered so that the originally projected sequence does not even appear. For indirect speech acts, then, a pre-request is given, the

four-part trajectory is projected, but the addressee then conventionally has the option of collapsing that trajectory so that the utterance scheduled for the fourth turn appears at the second. That is, the sequence on the left becomes the sequence on the right:

A: can you pass the salt?	A: can you pass the salt?
B: yes I can	
A: please do so	
B: {does so}	B: {does so}

The motivation for operations such as this is to be found in the notion of 'preference organisation'. Certain types of interaction are societally 'preferred' over others and so, if a trajectory is projected which contains less preferred actions, that trajectory will be a ready target for alteration. It should be emphasised that preference organisation has found a wide application and has not been introduced solely for the benefit of this particular analysis; as Heritage (forthcoming.a) points out, the function of preference organisation appears related to the avoidance of threats to 'face':[11] any activity which may be classified by a language community as face-threatening will be dispreferred and hence regularly avoided when possible and justified when not. Of particular relevance to the design of sequences which have been classified as exemplifying the use of indirect speech acts are preference rankings such as the following: first, it appears that 'refusals' or 'rejections' are generally dispreferred and so much work will be expended in order to avoid their occurrence; second, it appears that it is preferred for someone to *offer*, rather than to receive a request; and third, a spontaneous action is to be preferred over a request for that action.

---

11. See: Goffman (1955, 1967), Brown and Levinson (1978), and Owen

Furthermore, one can see from ths approach to indirect speech acts that

> '... considerations having to do with the normal design and trajectory of *sequences* can be shown to inform the design and interpretation of conventionalised *turns*. Moreover the phenomenon of 'indirect speech acts' can be shown to be explicable by reference to simple facts of conversational sequence in place of more tortuous and confusing attempts to work solely at the level of the syntax and semantics of sentences.' (Heritage, forthcoming.a, p9/10)

As this should also be seen in the light of the commitment to speech act assignation on sequential grounds illustrated in the introduction, we can now see that there are in fact many kinds of discourse level organisation apparent in natural conversation and that the study of these organisational details in sequential terms and independently from their particular contents can reveal the motivations for various aspects of turn and sequence design. Any attempt to understand conversation and discourse without an account of these organisational details then ignores much useful information that is actually available to conversational participants.

Figure 1 below summarises the further discourse level constructs that have been introduced in this section and extends the list presented in the introduction. For more detailed introductions to conversation analysis see: Wootton (1975), Coulthard (1977), Levinson (1983), and Heritage (forthcoming.a). In addition, although conversation analysis may be criticised in general concerning the lack of detail that has been shown with respect to formal linguistic phenomena, there are discourse conditioned phenomena to which

---

(1979, 1983).

conversation analysis has drawn attention and which should, therefore, also be added to the list I gave above in figure 1 of the introduction. These include the selection of syntactic resources specifically for the construction and control of turns, e.g. syntactic sub-ordination can indicate that a turn is incomplete, or the use of particular items such as pause fillers for maintaining rights to a turn; the nonlinguistic synchronisation of gaze and gestures (cf. Beattie, 1981) and the deployment of intonation for signaling the end, or otherwise, of turns; and also the selection of particular features for utterances so that they signal more clearly the function they are intended to serve, e.g. the selection of modals and 'please' in the design of pre-requests to function as requests investigated by Levinson and cited above.

term	*sources*
adjacency pairs	Sacks,Schegloff
including:	
question-answer	
summons-response	
invitation-response	
assessment-agreemdisagreement	
blame-denial,admission	
greetings	
farewells	
insertion sequence	Schegloff:1972
position	Levinson:1983
pre-sequences	Schegloff:1968
including:	
pre-invitations	
pre-requests	
pre-arrangements	
pre-announcements	
pre-closings	
side sequences	Jefferson:1972
turns	Sacks,Schegloff+Jefferson:1974

Figure 1:
Textual layer constructs 2: conversation analytic approaches

Conversation analysts have now, of course, also begun to investigate longer sequences of turns in attempts to achieve a more global understanding of the mechanisms responsible for conversation; for example, Heritage (forthcoming.a) cites a study by Jefferson[12] which examines conversations in which the participants are expressing accounts of 'troubles' or 'anxieties' of concern to them. However, her analysis clearly resembles the now common use of textual schemata in discourse analysis and hence would appear to leave itself open to several of the ehtnomethodologically-based criticisms brought against discourse analysis on the grounds of its ready reliance upon 'underlying knowledge' and the sharing of concepts. Indeed, the very

prior delimitation of the domain of inquiry to 'troubles' talk presupposes a common subject matter in a way not traditionally found in conversation analytic studies and rests upon one of the more complex and poorly understood phenomena of both conversation analysis and discourse analysis, i.e.: 'topic'. In order for Jefferson to classify sequences of turns as instances of elements of her schema she must be able to recognise the subject matter, point, or topic of those sequences - but conversation analysis bases its recognition of the subject matter of any utterance primarily upon the analyst's understanding of what is occurring in the conversation.

It should be noted that although there is some very useful work concerning the establishment and development of topics which will be discussed in chapter six, in general conversation analysis is no nearer explicating this problematic issue than is discourse analysis. It might well be suggested, therefore, that discourse analysis, with its acceptance of the necessity of a formalisation of semantic interpretation, could at this stage usefully supplement the conversation analytic account. Indeed, as Levinson writes:

> "The main strength of the DA [discourse analysis] approach is that it promises to integrate linguistic findings about intra-sentential organisation with discourse structure; while the strength of the CA [conversation analysis] position is that the procedures employed have already proved themselves capable of yielding by far the most substantial insights that have yet been gained into the organisation of discourse." (1983, p287)

Nevertheless, proponents of the two orientations are usually hostile to the possibility of useful collaboration between them and, in order to avoid misguided attempts at synthesis, it is necessary to

---

12. Jefferson (1980).

understand why this is the case. This will be the task of the next section.

4. Arguments against synthesis

The essential difficulty that has faced attempts to 'formalise' the results and methods of conversation analysis is that that very formalisation has been prone to shift the emphasis of investigation to coincide with that of discourse analysis because of an insufficient understanding of the basic tenets of the conversation analytic view of discourse; that which makes conversation analysis different, and hence provides for its success, is therefore often lost. This is not simply due to the difference in attitudes adopted towards formalisation: discourse analysts 'believing in it' while conversation analysts, out of some perversity, not. Nevertheless, several authors have, criticised ethnomethodologists precisely on the grounds that they avoid formalisation and have suggested that various 'improvements' need to be made to the 'precision' with which conversation analysis is undertaken. Brown and Yule, for example, go as far as to suggest that the lack of precision in conversation analysis makes it "difficult for others to use in any practical way" (1983, p231) - a view shared by Coulthard (1975), Gumperz (1982, p160), and others. Conversation analysis theorists, however, hold that not only is the formalisation found in discourse analysis unsuitable for analysing natural conversation, but that it also rests upon unwarranted theoretical assumptions concerning 'the nature of communication' and 'intention' and these concepts' relations to

individual speakers. It is important, therefore, for the conversation analytic position not to be compromised merely for the want of ready - and hence ill-considered - formalisation.

In the previous section I introduced a few of the more established conversation analytic constructs in relatively neutral terms. Thus, there may have appeared little to argue against a standard cognitivist appropriation of those constructs along the lines of the appropriation of systemic grammar that I will describe below. Such a move would consider the adjacency pair, insertion sequence, and the rest simply as further structural resources available to language users for the intentional production and interpretation of discourse; indeed, the final case of Jefferson's proposed text schema or text plan for telling 'troubles' could easily fail to be differentiated from the plan-oriented approaches of discourse analysis and computational linguistic theories. It is necessary now, therefore, to concentrate more carefully upon the differences and distinctiveness of conversation analytic constructs when compared with those of discourse analysis; it is precisely in these areas that the battle in any attempt to offer a thoroughly *appropriate* formalisation will be won or lost.

I will discuss three principal areas of difference: the transaction/interaction distinction, the structure/'local management' distinction, and the lack of fit between form and function which arises from the different categories of units to which conversation and discourse analysis appeal.

The first difference is more often found voiced by those concerned with discourse analysis; for example, Yule (1981, p17) and Brown and Yule (1983, p2). This holds that the discourse analysis theorist is to be concerned with "primarily transactional language", i.e. language in which the speaker is chiefly involved in the "efficient transference of information". In contrast to this, the 'interactional' view, purportedly that of conversation analysts, focuses more on so-called 'phatic' communication where there is talk for 'social reasons' rather than for the sake of a message. For Brown and Yule this seems to arise from an acceptance that Lyons' (1977) distinction between 'descriptive' and 'social expressive' language[13] is parallel to the distinction between transactional and interactional language. Lyons says as a statement of intent that he will not be interested primarily in the use of language for expressing 'feeling, moods, and attitudes' but will concentrate instead upon "the intentional transmission of factual, or propositional, information" (1977, p32). This can then also be accepted as a characterisation of the proper area of concern for discourse analysis. Thus, conversation analysis and discourse analysis are considered to be dealing with two very different aspects of language which need not bear any close relationship to one another. This offers a warrant for each perspective to dismiss the results of the other as irrelevant for its own concerns.

---

13. Or Lyons' (1972) distinction between "communicative (=intentional)" and "informative (=unintentional)" aspects of speech.

The second distinction argues the two orientations to have very different approaches to linguistic organisation and is more commonly maintained by conversation analysts although others have expressed somewhat similar claims.[14] Levinson's statement of it establishes the issues involved:

> 'Conversation is not a structural product in the same way that a sentence is - it is rather the outcome of the interaction of two or more independent, goal-directed individuals, with often divergent interests. Moving from the study of sentences to the study of conversation is like moving from physics to biology: quite different analytical procedures and methods are appropriate even though conversations are (in part) composed of units that have some direct correspondence to sentences.' (1983, p294)

Levinson can therefore argue that discourse analytic approaches cannot be made compatible with those of conversation analysis because they accept a structurally-motivated view of discourse which is entirely inappropriate for natural conversation. Turn-taking, for example, should be seen as a 'local management system' (*ibid.*, p297) that operates on a turn-by-turn basis rather than as a pre-given structuring according to a rule. The selection of the next speaker to take a turn and initiation of turns are, in every case, *achievements* of those concerned and not pre-ordained by a rule.

This is one consequence of the conversation analysts complete acceptance of the shared basis of talk. An absolute structural constraint cannot be brought to bear because the flow of the discourse relies upon the work of more than one participant and so 'deviations' from the expected or predicted course of events can always be introduced. It takes the agreement of all those involved in

---

14. E.g. Sinclair and Coulthard (1975) and Nunberg (1981).

a conversation to finalise what is occurring - one speaker on his/her own can only *propose* what is to come, not guarantee it. Thus conversation is always seen as a *contingent negotiated achievement* of organisation on the part of those involved. Schegloff explains this particularly well:

> 'If certain stable forms appear to emerge or recur in talk, they should be understood as an orderliness wrested by the participants from interactional contingency, rather than as automatic products of standardized plans. Form, one might say, is also the distillate of action and/in interaction, not only its blueprint. If that is so, then the description of forms of behaviour, forms of discourse (such as stories) included, has to include interaction among their constitutive domains, and not just as the stage on which scripts within the mind are played out.' (Schegloff, 1982, p89)

This is the sense in which 'interaction' assumes such a central role in conversation analysis. The development of talk is taken to be so responsive to the demands of interactional efficacy that any theory which seeks to evade a thorough incorporation of interaction by, for example, formulating static pre-existing textual schemata or plans which are only peripherally concerned with the natural process of taking part in a conversation and with the give and take this entails, must be considered seriously deficient.

> '[It] seems productive to assume that, given conversation as a major, if not THE major, location of a language's use, other aspects of language structure will be designed for conversational use and, pari passu, for turn-taking contingencies.' (Sacks, Schegloff, and Jefferson, 1974, p722)

And so, a theory which places the emphasis on contingency, rather than upon structural pre-determination, is accepted as essential.

The third and final chief distinction is based upon the origins of the two approaches; on the one hand, conversation analysis arises from sociology and so conversation analysts see themselves as

investigating categories of *social action*; discourse analysts, on the other hand, see their research into the organisation of language in terms of the structural tradition within linguistics and so create categories of *linguistic form* for their theories. The relationship between these two types of theoretical entity is, however, extremely problematic.

Gazdar (1981), for example, has argued that pragmatics should be kept quite distinct from semantics; that is to say that standard discourse analytic approaches to the functions of language, e.g. speech act theory, should base their studies solely upon utterances, i.e. actual situated instances of linguistic behaviour, not upon sentences, the formally-derived, and hence contextless, products of a grammar, which are only subsequently assigned a 'meaning' by semantic interpretation so that they might be fitted into contexts as appropriate. But then, how is the concept of a grammar to maintain its utility in the analysis of naturally-occurring talk, i.e. of utterances? Conversation analysts would suggest that it does not and so obtain a further motive for avoiding formalisations of grammatical structure altogether.

Levinson (1981), also in this general vein, argues for the necessity of dealing with situated utterances, not decontextualised forms, on the basis that it is not possible to construct a mapping between form and function. The correlation between illocutionary force, e.g. promising, warning, or any other category specified by a theory of speech acts,[15] and the possible forms which may carry that

force has to date resisted formalisation. Levinson supports his claim that it will not, in fact, prove possible to arrive at a formalisation on the following grounds.

> 'If we are to map unit acts onto utterance units, as the speech act model requires, the utterance units must be identifiable independently of the functions (the act units) they perform.' (1981, p478)

But, he argues, discourse *has no* independently characterisable structure in terms of *utterance units*,

> 'the relevant utterance units that can function as conversational contributions can be just about anything, including nothing.' (*ibid.*, p479)

The attempt to define a function of which both domain and range are so difficult to characterise is therefore seen as a pointless exercise doomed to failure.[16]

Schegloff (1977) takes this claim yet further and concludes that not even functions as basic as those apparently fossilised in syntax, e.g. questioning, ordering, and asserting, need, in fact, be susceptible to statements of their realisations in form: such functions, he suggests, are simply taken from a different kind of analysis to which questions of form are not immediately relevant. Indeed, Schegloff argues that many of the functions of language discussed in speech act accounts may not even be appropriate objects of inquiry because they are based upon informal understandings of

---

15. For examples of speech act taxonomies see: Wilkins (1975), Searle (1976), Searle and Vanderveken (1984).

---

16. Levinson also criticises all notions of 'sequencing rules' at the level of act units (*including* that of adjacency pairs), favouring an approach in which rules are replaced by *strategies* for dealing effectively with goals and plans. This will be of more concern in chapter four below.

talk rather than the results of detailed analyses: 'it is misleading to start to account for such categories of action as 'questions', 'promises', etc., as the analytic objects of interest. They are commonsense, not technical, categories and should be treated accordingly.' (*ibid.*, p82) The technical categories Schegloff finds more appealing are, naturally, those arising out of conversation analytic research programmes such as those with which he is concerned. The justification for this is that the conversation analysis constructs are held to be demonstrably *real* for conversational participants. That is,

> 'Since it is the parties' understandings of prior turns' talk that is relevant to their construction of next turns, it is THEIR understandings that are wanted for analysis. The display of those understandings in the talk of subsequent turns affords both a resource for the analysis of prior turns and a proof procedure for professional analyses of prior turns - resources intrinsic to the data themselves.' (Sacks, Schegloff, and Jefferson, 1974, p729)

And so,

> '... for each substantial claim, the methodology employed in CA requires evidence not only that some aspect of conversation *can* be viewed in the way suggested, but that it actually is so conceived by the participants producing it. That is, what conversation analysts are trying to model are the procedures and expectations actually employed by participants in producing and understanding conversation.' (Levinson, 1983, p318/9)

The fundamental difficulty in matching the social acts revealed by conversation analysis and the competence-oriented linguistic 'acts' which support them was alluded to in the introduction and can be illustrated by examples such as the following. First a small segment of talk is offered:

> 'B has called to invite C, but has been told that C is going out to dinner:
> B: Yeah. Well get on your clothes and get out and collect

some of that free food and we'll make it some other time Judy then.
C: Okay then Jack.
B: Bye bye
C: Bye bye' (Schegloff, 1977, p83)

or

'B_1: Why don't you *come* and see me some//times.
A_1: I would like to.
B_2: I would like you to. Lemme // just -
A_2: I don't know just where the-us-this address// *is*.'
(*ibid.*)

Then Schegloff asks for the grounds by which certain turns can be classified so as to capture the way the participants obviously interpret these turns. Thus, in the former segment, although B's initial utterance is a closing initiation - this is shown by C's subsequent acceptance of the proposed close and the immediate and expected move to the closing farewells - there appears little in the *form* of that utterance which could be taken as unambiguously signifying that function.

> 'While B's utterance has certain imperative aspects in its language form, those are not the ones that count; his utterance is a closing initiation; and C's utterance agrees not to a command to get dressed (nor would she be inconsistent if she failed to get dressed after the conversation), but to an invitation to close the conversation.' (*ibid.*)[17]

Similarly in the latter segment, B's first utterance, although syntactically a question, is intended and interpreted as an invitation which A then accepts; this is clear since A's utterance cannot be glossed as an 'answer' to some question of B's - it was designed to serve the particular function of 'invitation acceptance' in a completely standard and frequently adopted fashion. Furthermore, A's last utterance, although syntactically an assertion, is instead intended and interpreted as a question or a 'request for directions'

---

17. This has also appeared as Schegloff and Sacks (1973, p313).

- which B subsequently proceeds to give.

Schegloff then concludes that

> 'no analysis, grammatical, semantic, pragmatic, etc., of these utterances taken singly and out of sequence, will yield their import in use, will show what co-participants might make of them and do about them.' (*ibid.*)[17]

It is precisely these utterances' situated occurrence in actual sequences of utterances that makes their interpretation possible. Their 'sequential placement'[18] is not, therefore, something which can be treated as peripheral and interaction once again is pointed to as being of crucial import. Schegloff continues:

> 'One consequence of this discussion, to my mind, is that not only is the path from linguistic questions to interactional ones not a straight line, but that not much may lie at its end. For a substantial part of what we might expect to be available to us as understanding of questions as a category of action is best and most parsimoniously subsumed under the category of 'adjacency pairs'; much of what is so about questions is so by virtue of the adjacency pair format. And what distinguishes 'questions' from first pair parts of other sorts does not seem in any straightforward way to be sought from linguistic resources.' (*ibid.*, p85)

Now, while I find myself largely in agreement with Schegloff over the correct location for explanatory statements concerning what constitutes, for example, questions, Schegloff's final statement must be treated more cautiously. What makes a question a question may well be its role in an adjacency pair - understood as a 'higher' level scheme of organisation - after all, this does little more than accept

---

18. Interestingly, the acceptance of the necessity of dealing with *sequences* even in speech act and textual relation accounts has been argued recently by van Dijk (1980b), Ferrara (1980a, 1980b); Mann and Thompson's (1983) 'relational propositions' are based upon an, albeit restricted, acceptance of sequence as a basic notion; while a very early attempt to treat speech act sequences is exemplified by Mohan (1969).

the existence of some kind of level of discourse 'structure', even if it is at the level of social action.[19] However, if one goes on to claim that the linguistic form cannot help us with the recognition of the discourse 'structure' which is being produced then one has surely strayed into an untenable position. The linguistic form and the deployment of formal-stratum resources is the only concrete basis a conversational participant has for his/her interpretive work. While certain more traditional approaches to the use of language may have been in error to rule out a pervasive contextual influence at all levels of interpretation, conversation analysis would be equally wrong if it were to overlook the effects of linguistic form upon interpretation.

Clearly, conversation analysis cannot, and does not, place itself in such a position. Yet the tendency present in Schegloff's line of argument underlies an almost paradoxical attitude towards the analysis of linguistic form. Heritage, for example, explains that conversation analysts consider that discourse participants should be

> 'viewed as simultaneously engaged in fine-grained real time co-ordination of speaking turns tracked predominantly in terms of surface structural features and as acting in terms of accountable normative expectations bearing on the nature and design of their turns at talk.' (Heritage, forthcoming.a, p6)

And Levinson's re-analysis of indirect speech acts cited above clearly suggests the need for some tying together of surface features and utterance function that does not rest solely with the analyst's

---

19. There is a striking similarity here between both the ethnomethodologists' and Halliday's (1978) placing of discourse organisation at the social level of context (as will be described in chapter two) and Halliday's and Levinson's (1981) criticism of a 'structural' approach to that level.

intuitions.

Yet a specification of the surface structural features upon which participants supposedly rely is strangely absent. One does not generally find in conversation analytic work any explicit statement of these features beyond impressionistic appeals to traditional, folk-grammatical classifications and to loose pre-theoretical intonation judgements. Conversation analysts argue that formalisation is premature but does it really follow that all the results obtained in the studies of syntax and intonation are to be considered inappropriate or even irrelevant in conversation analytic work? It would seem beneficial for any research programme such as conversation analysis, which holds that minimal idealisation of its data is to be pursued at all costs, to avail itself of methods that can handle the complexity that this necessarily involves. Without such a move formalisation, even when warranted, becomes an infinitely harder task.

I believe that it is both possible and, eventually, unavoidable that the techniques we now have for analysing the fine details of form should be integrated with those techniques of conversation analysis which investigate the fine details of interaction. That is: it is possible to have a linguistic theory not only which accepts discourse as a negotiated contingent achievement of meaningful language-in-context in which sequential placement is a crucial resource, but which also permits the precise specification of grammatical, discoursal, prosodic, and contextual details. The

remainder of this chapter explains how this is to be achieved by, first, introducing an established linguistic paradigm that does not necessarily conflict with the tenets of ethnomethodology and, second, by addressing in turn each of the above distinctions between conversation analysis and discourse analysis, explaining their basis, and showing that all three can, in fact, be satisfactorily resolved within the proposed linguistic perspective.

5. Language as social semiotic - the Hallidayan view of language

There have in fact been many proposals in the history of linguistics[20] akin to the view taken in conversation analysis that language should be considered a 'social fact', i.e. both "external" and "constraining".[21] However, although there have been very few such accounts to achieve any degree of explicitness in their treatment of the fine details of linguistic events, a notable exception to this rule is provided in the theories of the British linguist J.R. Firth. Indeed, Firth's complete rejection of the utility for linguistics of any mind-body duality helps establish the possibility of incorporating within a detailed linguistic theory an understanding of 'the social' that is far more consonant with the philosophical and sociological positions discussed above than that possible within much of present day linguistic research.

Linguistics, for Firth, was to be

20. E.g. Humboldt (1971/1836), Saussure (1959/1915). Also in psychology: see, e.g., Vygotsky (1962/1934), Rommetveit (1974).

21. Durkheim (1950).

> "... a discipline and technique for the statement of meanings without reference to such dualisms and dichotomies as word and idea, overt expressions and covert concepts, language and thought, subject and object." (Firth, 1957/1951, p192)

This, of course, is in marked contrast to what has become, for better or worse, mainstream linguistics - particularly in Chomsky's version where it has even been argued that part of the value of transformational generative grammar arises precisely from its reassertion of tenets central to approaches to language more immediately related to the philosophy of Descartes (cf. Chomsky, 1966). Whether language is taken to be "the vehicle for the logical outbursts of the individual soul" (Firth, 1964/1937, p113), as Chomsky and many others have done, or taken to be more "the telephone network, the nervous system of our society" (Firth, *ibid.*), as Firth suggests, in fact marks exactly the sharp dividing line in approach that has already been illustrated with respect to cognitivist discourse analysis and ethnomethodology. The former approach has been described by Halliday (1978, p12 and *passim*), the principal developer of modern Neo-Firthian linguistic theory, as an **intraorganism** approach, reflecting its concern with internal cognitive processes and knowledge as the foundation of language, and the latter as an **interorganism** approach, in which language is a kind of meaningful behaviour undertaken by social beings in social contexts.

It should be clear that interorganism approaches have not received the concentrated attention that has fallen upon intraorganism, or cognitivist, studies of language in recent years. The main reason for this one-sideness in linguistic theorising is the extent to which interorganism linguistics does not admit of ready

formalisation. Thus, the explicitness of much of Firth's theorising can still be considered wanting when judged by today's standards of formal linguistic theory. However, Halliday's (1961) introduction of 'scale and category grammar' improved the formal status of this branch of linguistics and the gradual development of **systemic grammar**, again mostly by Halliday,[22] which increasingly brings 'paradigmatic relations' and *systems* to the fore, provides a formal framework capable, in principle, of at least beginning to attack many of the issues Firth raised. This will be very useful because, although the significance of those issues have been somewhat displaced by the rise of intraorganism linguistics, the discussion of the previous section reveals their importance anew.

The current Hallidayan view of the linguistic system can most easily be interpreted in terms of Firth's well-known 'linguistics is a prism' metaphor, by which various 'modes of meaning' can be highlighted for analytic purposes.

> 'Let us ... apply the term linguistics to those disciplines and techniques which deal with institutionalized languages or dialects as such. A statement of the meaning of an isolate of any of these cannot be achieved at one fell swoop by one analysis at one level. Having made the first abstraction by suitably isolating a piece of 'text' or part of the social process of speaking for a listener or of writing for a reader, the suggested procedure for dealing with meaning is its dispersion into modes, rather like the dispersion of light of mixed wave-lengths into a spectrum.' (Firth, 1957/1951, p191/2)

Thus, any instance of language use is assumed to be a complex integrated pattern of behaviour to which various specialised

---

22. See, for example, Halliday (1963, 1970, 1976). For an introduction to the systemic approach and some examples of its use see: Berry (1975, 1977), Hudson (1971, 1974, 1976).

techniques of analysis may be applied. The result of applying these techniques is a hierarchy of statements of meaning where each language form or element is related to some appropriate context.[23] Formally, each technique of analysis offers a possible context from which to consider language forms or elements. Each such context is then taken to be a component function of the total meaning that an instance of language use entails.

The need to make these types of general statements of meaning more precise subsequently gave rise to theoretical frameworks such as Halliday's. However, it is only with Halliday (1978) and the papers collected there that the 'full spectrum' of possible 'modes of meaning' in language raised by Firth are considered in explicit relation to one another. Therefore, I shall adopt, as an initial 'approximation', Halliday's view of the linguistic system in order to locate the various linguistic levels and phenomena I examine below and the relationships found to hold between them. It should be noted that the remainder of this section will only describe in the most general terms the view of the linguistic system that Halliday provides - it will be the task of section 3 of the next chapter to make that view more concrete by describing the actual mechanisms employed within one implemented systemic account.

---

23. The importance of the notion of 'context' for Firth goes back to the work of Malinowski (e.g. 1923) and Gardiner (1932) and is a central construct in all theoretical positions descended from Firth's as well as in his own.

---

24. E.g.: Vachek (1966), Danes (1970), Klein and von Stechow (1973), Sgall, Hajicova, and Benesova (1973), and Firbas (1974).

In the development of Halliday's theory the influence of the Prague School[24] and Buhler (1934) results in a certain rationalisation of Firth's original conception of the linguistic system as being composed of five principle component functions or modes of meaning: the phonetic, the lexical, the morphological, the syntactical, and the semantic, Although Firth's lower levels remain - the phonetic level serves as a phonological stratum of the linguistic system, while the lexical, morphological, and syntactical levels are usually combined to form a 'lexicogrammatical' stratum - the semantic level as Firth construed it is pushed higher in the organisation of the system to become a level of situation-types or social contexts. For Halliday, the effects of situation and context are mediated by a *semantic* stratum. This is to simplify the statement of relations between language and context by imposing a *functional organisation* upon the linguistic system as a whole.

The semantic stratum represents the *potential for meaning* that a speaker has and consists of three functional components, each of which handles a generalised, or 'meta'-function, of language. Halliday introduces these generalised functions, termed the ideational, interpersonal, and textual functions, as follows.

> 'The ideational function represents the speaker's meaning potential as an observer. It is the content function of language, language as 'about something'... The interpersonal component represents the speaker's meaning potential as an intruder. It is the participatory function of language, language as doing something... The textual component represents the speaker's text-forming potential; it is what makes language relevant. This is the component which provides the texture; that which makes the difference between language that is suspended *in vacuo* and language that is operational in a context of situation.' (Halliday, 1978, p112/3)

These functions are generalised, or 'meta-', in the sense that any instance of language use is assumed necessarily to be already fulfilling all of these functions in some particular way simply by virtue of the fact that it is an example of language in use.

> 'Whatever we are using language for, we need to make some reference to the categories of our experience; we need to take on some role in the interpersonal situation; and we need to embody these in the form of text.' (Halliday, 1974, p49)

A use of language commits the language user to fulfilling these functions and the semantic stratum captures the range of potential available to the speaker in this regard.[25]

The basic shape of the linguistic system as articulated by both Firth and Haliday consists, then, of a hierarchy of levels which, when taken *together*, constitute the possible meanings of instances of language use; each level has a contribution to make. The 'higher' levels relate to the social and cultural contexts in which language is used, and are considered to be as much a part of the total statement of meaning as the more traditional levels. This view of the linguistic system is summarised in figure 2. Reading across this diagram gives the levels, or 'strata', corresponding to Firth's 'modes of meaning'. The lexicogrammar-semantics-context tripartition may be seen as being loosely analogous to the traditional linguistic division into syntax, semantics, and pragmatics although there are, in fact, significant differences between them. In this system, the

---

25. In the Hallidayn view this is the way in which language is allowed to 'transcend' individual particular situations and to provide a generalised mode of expression or communication by which any particular context can be addressed: 'The input to the semantic networks is sociological and specific; their output is linguistic and general.' (Halliday, 1973, p80) This will be elaborated upon considerably below.

strata are bound together by a relationship of 'realisation'. This is intended to provide the mechanism by which it can be guaranteed that the fragmentation of the complex integrated behaviour that is linguistic activity into 'statements of meaning' at each of the available strata is not destructive for the phenomenon as a whole. That is, in addition to being able to take the use of language apart, it is also possible to see how the isolated components relate so that the reconstruction of the whole can be understood. The realisation relationship thus entails that each possible selection from the potentially available resources at any stratum has consequences for those which are subsequently possible within the other strata. Strata are considered, therefore, to be essentially linked in that there is no support offered for a 'modular' interpretation of the actual process of linguistic activity whereby selections might first be made at one stratum in order to produce a result that is to be input to another. The achievements of selections at each stratum are accepted as necessarily mutually-constraining.

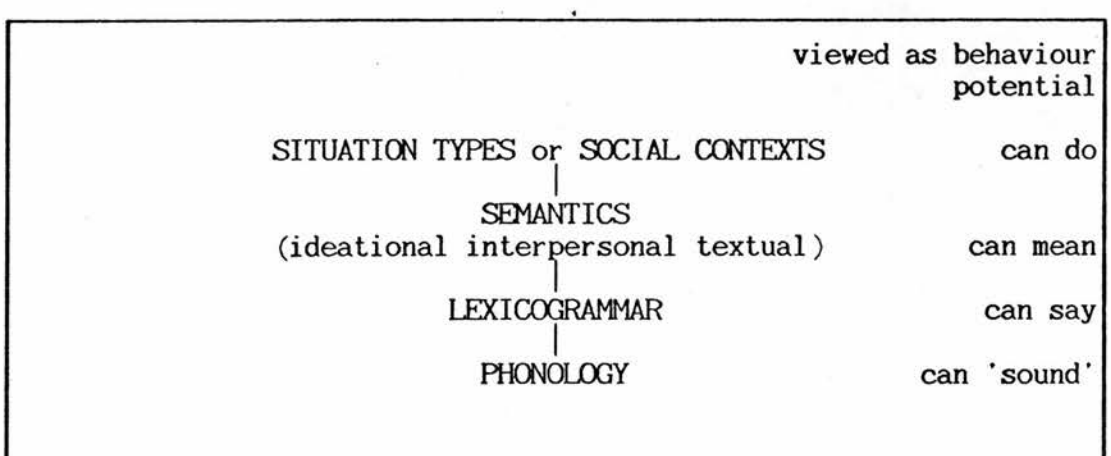


Figure 2: The linguistic system according to Halliday (1978)

Furthermore, although the notion of realisation is based upon Lamb's (1971) cognitivist stratificational grammar, a fundamental difference is preserved by the *socio-functional* organisation provided by Halliday's semantic stratum and the acceptance of a stratum of social context. Each stratum must be considered a statement of the *interorganism* behaviour potential which realises the level above and is realised in the level below. Any actual instance of language use presupposes some selection of available potential, or actualisation, at each level but that potential is always to be construed as being socially-motivated.

To recap, then, this view of the linguistic system considers there to be a hierarchy of **strata** related by **realisation**. The most abstract is that which is to capture the possible ways of acting that are available for participants in particular contexts or situation types; a full statement of the resources of this level is clearly a significant problem of sociology also. At a less abstract level is the *semantic* stratum. This is to capture the available range of meanings that a language provides for its users. Less abstract still is the *formal* stratum within whcih the possibilities of form provided by the language are represented. This stratum has traditionally included both lexical and syntactic form information and so is often referred to as the lexicogrammatical stratum. However, there is now increasing acceptance of a level of *intonational* form also (cf.: Brazil (1981, p149) and Brown, Currie, and Kenworthy (1980)), and so the formal stratum might well be taken to include at least three

components at a similar level of abstraction, i.e. lexis, grammar, and intonation.[26] And finally, most concrete of all is the stratum of phonology and its realisation in phonetic substance.

The realisation relationship which binds these strata into a hierarchy then enforces an 'encoding' relationship between them. Each stratum encodes distinctions at the stratum above and is encoded in distinctions at the stratum below. Significantly however, that encoding is made with respect to the total resources available within any particular stratum - it is not, in general, possible to take a simple distinction within one stratum and map it on to a single correspondingly simple distinction within another. The anchoring of the realisation chain among social situations then captures the idea of language as a symbolic system that 'encodes' social realities; it is in this sense that Halliday (1978) refers to language as a 'social semiotic'.

However, it has not been necessary, with the extent to which this framework has been used to date, to make its interorganism aspect so prominent. Most of the actual linguistic description attempted within it has remained at the level of the nominal group, clause, tone group, or sentence. Almost exclusively, it is only in work which has not been primarily concerned with linguistic description that wider issues have come to be addressed and, in such work,[27] any explicit commitment to an interorganismic orientation is conspicuously absent. The reasons for this are: first, when

---

26. Four, if a separate morphological component is also required.

attempting to formulate a linguistic description of clausal phenomena it seems possible largely to forget the interorganism nature of the linguistic system and concentrate, for example, on single sentences produced by single speakers;[28] and second, the nonlinguistically motivated developments have all been made within a paradigm which is already fundamentally intraorganismic in orientation. Thus, even though Halliday's approach is avowedly interorganismic, which is what allows him to make contact so readily with the social situations of speaking and to avoid questions of psychology and mentalism, the formulation of actual systemic grammars has not significantly reflected interorganism concerns.

This easily obscures the essential distinction between a Chomskyan conception of competence and the Hallidayan conception of potential. The former, in good Cartesian tradition, denotes the abstract 'knowledge' a speaker is presumed to need in order to use language correctly; the latter, however, denotes no such speaker-bound entity. In this respect, the form of words 'that which a speaker can do, mean, or say' in the above diagram of the linguistic system may be misleading in that it is open to an interpretation in which the individual speaker 'represents' his/her

---

27. Cf. Winograd (1972), Davey (1975), Matthiessen (1981), Mann (1981); Fawcett (1980) is an exception, however, although much influenced by the former of these approaches he can still be said to be aiming at linguistic description - albeit explicitly cognitivist in orientation.

---

28. Cf. also Nunberg (1981, p214): "I think the implicit assumption has always been that competence comes out empirically the same as *langue* under a sufficiently severe idealization; ... [this] assumption is right for syntax and phonology, and wrong for semantics."

possibilities for doing, meaning, or saying and then makes selections from these accordingly. Under such an interpretation the distinction between competence and potential has well-nigh disappeared and an intraorganism appropriation of the systemic approach appears justified. The linguistic potential of a speaker should be seen, instead, as the potential for behaving linguistically that generalised socially significant situation-types offer to the speakers and hearers who participate. Linguistic potential is, therefore, not speaker-bound, but *situation*-bound, and this becomes progressively clearer as we move further beyond the domain of the analysis of the clause.

Although not usually explicitly considered quite in this way, the organisation of the systemic linguistic system clearly reflects this situationally-bound aspect; lower levels realise higher levels and the highest levels of all are those of contexts and situation-types. Thus, we find that

> "The linguistic system ... is organised in such a way that the social context is predictive of the text. That is what makes it possible for a member to make the necessary predictions about the meanings that are being exchanged in any situation which he encounters... If we did not do this, there would be no communication, since only a part of the meanings we have to understand are explicitly realised in the wordings. The rest are unrealised; they are left out - or rather (a more satisfactory metaphor) they are out of focus. We succeed in the exchange of meanings because we have access to the semiotic structure from other sources." (Halliday, 1978, p189)

It is important to note that this in no way denies the creativity of the individual language user. The situation is not an autonomous construct which deals the participants in the situation

their allotted roles and scripts which they must then follow automata-like. What the situation achieves is an organisation of the resources provided by the linguistic system according to what is relevant for that situation. Under this view, the linguistic system does not lie dormant, all resources equally available, waiting to be called into action; the establishment of situations and a relevance-relative structuring of linguistic potential are taken to be inseparable, mutually-conditioning processes. One cannot be said to lead the other. The essential context-dependence this creates can be seen to be of particular relevance to the discussion of the previous section and in the next section's synthesis of the Hallidayan paradigm and the conversation analytic viewpoint.

This relationship of mutual constraint is captured linguistically by the *bidirectionality* of realisation. Just as the situation constrains the linguistic potential that is actually available, equally the selection of linguistic possibilities creates the particular situation that is in force; speakers and hearers, by their actualisation of potential, bring intersubjective situations into being.[29] The situation is merely a particular way of looking at one aspect of the behaviour that is occurring and does not seek to devalue the contribution made by the participants who support it. In fact, it can be argued that this view, by virtue of its recognition of the situation-shaping function of language, values the creative use of language far more highly than do approaches in which language is simply a code for some level where the 'real' work is done. Here, linguistic distinctions are considered meaningful in that they, via

realisation, actualise social situation-types and, in so doing, provide the means for maintaining intersubjective existence. Linguistic creativity is thus not reduced to the production of an infinite set of strings, nor to the generation of certain 'appropriate' structural configurations; instead it remains an expression of the individuality of essentially social beings.

The strata of potential, both linguistic and social, that constitute the 'linguistic' system are, then, an attempt to formalise the resources by which creativity manifests itself in language. Potential is represented by **systems of choice** which have as entry conditions the output of logically prior systems of choice and which, in turn, lead on to logically dependent systems of choice. Choice, or the paradigmatic relationship, is therefore focused upon as the fundamental principle around which language is organised[30] although, of course, this is an abstract conception of choice which does not denote intentional selection by an individual. Structure, or the syntagmatic relationship, is the consequence of actualisation: i.e. when some choice within a system of choices is selected, that choice may be realised in structure. In general, structure provides the means by which disparate meaningful choices can be superimposed upon

---

29. Cook-Gumperz and Gumperz (1976), for example, is an interesting study, from this perspective, of language used in children's games, in which the language is *defining* the context and not passively taking part within it.

---

30. This contrasts with Firth, for he placed more equal emphasis on the syntagmatic and paradigmatic aspects of language. Halliday considers systems of choice more able to capture the essential notion of language as a *resource* than can a language as structure conception: 'In the microsemiotic encounters of daily life, we find people making creative use of their resources of meaning...' (1978, p192) See Berry (1982) for a criticism of this position.

one another and yet remain accessible.

> '[The linguistic system] embodies all ... types of meaning in simultaneous networks of options, from each of which derive structures that are mapped onto one another in the course of their lexicogrammatical realisation. The lexicogrammar acts as the integrative system, taking configurations from all the components of the semantics and combining them to form multilayered, 'polyphonic' structural compositions.' (Halliday, 1978, p134)

This offers a more general conception of structure than that more usually found in linguistics. For example, with the present organisation of the semantic stratum, a single clause has three 'layers' of structure, each with its own distinct structural decomposition, corresponding to the consequences of the actualisation of potential provided by the three semantic metafunctions.

The discussion Halliday (1978) presents, however, is often as programmatic as any offered by Firth and so, unfortunately, does not provide the degree of formalisation required of an explicit linguistic theory, even though the conception of language it articulates is significantly more developed than that of Firth. For the theoretical framework to *be* a theoretical framework, rather than merely a collection of impressionistic suggestions, it must be possible to relate it to the areas of data it is intended to cover in a precise and replicable manner. Halliday (1978) does not provide a theoretical framework, then, so much as a metatheoretical orientation towards articulating such frameworks. The task a theoretical framework must undertake is to direct the analytic cutting edge of meaning and so, with an insufficiently well articulated framework, that task is impossible and the analysis must falter. It will be the

concern of the next chapter, therefore, to begin to specify how Halliday's interorganismic conception of language might be sufficiently formalised so as to permit a linguistically useful and nonarbitrary application of the theory to live data and, in particular, to conversation. But to conclude this chapter, I will now draw upon my description of the principles underlying the Hallidayan paradigm to explain how those of conversation analysis may be profitably and appropriately assimilated, thereby clearing the way for more adequate linguistic accounts of the interactions between the fine details of linguistic form in syntax and intonation and conversational organisation.

6. A synthesis achieved

Although the main thrust of this section will be to argue that a framework for the appropriate formalisation of the insights that conversation analysis has achieved already exists in the form of Hallidayan systemic grammar, it should be clear that the particular slant given to the subsequent development of the framework can radically alter its applicability to conversation analysis. Those developments which do not emphasise the interorganism aspect of Halliday's work - and of these there are many - are not at all suitable for conversation analytic work because they have themselves been assimilated in all but name by the discourse analysis approach. Indeed, I believe that an explicit adoption of the crucial tenets of conversation analysis offers a much needed direction and purpose to the further development of the Hallidayan paradigm as outlined in

Halliday (1978). That paradigm itself does not offer sufficiently explicit guidelines for work rigorous enough to be called linguistic analysis to follow from it straightforwardly; I hope, therefore, that the remainder of this thesis and the augmentation of the Hallidayan paradigm that it proposes will go some way towards suggesting a beneficial and appropriate direction in which to proceed.

Following upon my discussion in section 4 of the three important distinctions that have been drawn between conversation and discourse analysis, I will now show how a re-appraisal in terms of the perspective granted by the Hallidayan paradigm alters their significance greatly. Rather than supporting a fundamental divide in approach, they will instead form the basis of the Hallidayan discourse/conversation analytic synthesis I propose.

The first distinction is easily resolved for it rests upon two principal misunderstandings. First, there has been a distinct meaning change and, indeed, curtailment of meaning in the term 'interaction' if, as Brown and Yule propose, Lyons' definitions are accepted and methods of sequential interaction and purpose are reduced to the indication of 'feelings, moods, and attitudes'. And second, the suggestion that in language one can have either more or less of the transactional aspect or the interactional aspect depending on use is quite insupportable. This can be seen as follows.

Brown and Yule (1983, p1) have drawn a general correspondence between the 'transaction'/'interaction' distinction and Halliday's

ideational/interpersonal metafunction distinction. But, although this *does* capture some aspects of the relation between the transaction and interaction aspects of language more appropriately, one of those aspects is precisely the fact that the Hallidayan conception of linguistic metafunction posits *generalised* functions that language in use *must perform* simply in virtue of its being language; these functions are always present, not here in one situation and gone in another. An attempt to study, for example, clauses in which only the ideational layer of structure is filled does not define some subset of possible clauses as subject matter; it defines an ill-specified collection of poorly ordered structural elements from which the construction of anything resembling a clause is most problematic: *every* instance of language requires specification at *each* metafunctional layer.

Similarly interactional and transactional aspects of language should be seen as necessarily present features that inform the design of *all* discourse contributions. To attempt to deal with one aspect without the other is to guarantee an inaccurate picture. Conversation analysis has shown that many interactional issues are just as 'speaker-planned' and 'hearer-responsive' as transactional ones and so must be treated accordingly. Brown and Yule's parallels between 'interactional' and Lyons' (1977) 'socio-expressive' must be seen, then, as quite ill-founded. Indeed, it is somewhat curious to have this support for a restriction of attention to transactional language coming from Brown and Yule who also offer strong criticism of text grammarians dealing solely with content, i.e. ideational,

transactional details of language. The discoursal level I will propose below will require transactional and 'interactional' issues to be considered far more equally; that is, even though transaction and interaction may be two distinct 'dimensions' of linguistic organisation, accounts of discourse should nevertheless embrace them both.

The second distinction is of greater import - particularly because it forces attention to be paid to certain aspects of the theoretical position of systemic grammar that are more usually ignored. As I mentioned in the previous section, this has largely been due to a restriction of attention to the lexicogrammar; and so, with the consideration of discourse, it is entirely appropriate for these issues to be raised in more depth. In short, while I think it is quite acceptable that conversation should not be considered a 'structural product' in the way that a sentence commonly is, I also think that the presupposition that this entails concerning *sentences* deserves more attention. In fact, rather than attempting a surely ill-fated argument that discourse should be more like sentences, it seems that quite the reverse may be supportable, i.e. that sentences are more like discourse.

It is clear that I should be more specific about how I am using 'sentence' here because what is actually meant is more reminiscent of 'utterance' than it is of sentence when understood as a structural entity produced by a sentence grammar; the full significance of this will become clear with the discussion of the third distinction below.

Once the idea is accepted that language is through and through a *social* fact it presents a more harmonious picture of the linguistic system if the sharp divergence between structurally-built, individually-oriented grammatical entities and interpersonally-achieved conversational organisation were to be brought under tighter theoretical constraint. Accommodating this position establishes certain requirements for the 'syntactic' theories that are appropriate. Indeed, whereas the more widely accepted accounts of syntax can readily be seen not to be appropriate - this is, after all, the origin of the structure/local management split - Hallidayan systemic grammar can be shown to meet these requirements and so can offer an appropriate theoretical framework.

This may be seen in the following. As has been explained, the primary distinguishing feature of the Hallidayan view of language is expressed in Halliday's description of the possible perspectives that the linguist can take towards language. As long as the perspective of a systemic approach remains interorganismic rather than intraorganismic, the distinction between grammar and discourse can be profitably based in the relative 'density' of structural predictions at the two levels and not in a fundamental divergence of nature; this will be argued below towards the end of section 1 of chapter two. When the emphasis of linguistic description is moved towards the situation rather than the individual, and "what is grammatical is defined as what is acceptable" (Halliday, 1978, p52), there is nowhere to base a principled distinction between the mechanisms involved in generating discourse and generating 'sentences'. Both are

'structural', in the systemic sense; both are 'locally managed', i.e. the possible subsequent paths through the networks of potential can only be defined with respect to where in the network one is situated and the constraints that are in force from choices already made.

This position has a strong influence on how the third distinction is to be approached, that is, on how the radical mismatch between form and function is to be understood. Each seems wildly unconstrained by the other: an interrogative form can answer a question as well as it can ask one, a declarative form can ask a question as well as it can answer one, and so on. Furthermore, as Gazdar, Levinson, and Schegloff have shown, the correlation between speech acts construed more generally - promising, warning, etc. - and the possible forms for achieving such acts is, if possible, even less constrained. It has to be accepted that there is not going to be a specifiable mapping from sentence forms to discourse functions. There instead needs to be some means of taking *situated* utterances, not decontextualised system-sentences, as the starting point. It is worth re-emphasising here, therefore, that the final goal of a Hallidayan account, following from Firth's prism metaphor, is precisely to permit the description of situated utterances at various levels of abstraction: the notion of a *sentence without a context*, strictly speaking, is not a coherent one within the Hallidayan paradigm. In a very real and important sense, the utterances in context that form the subject matter of Hallidayan linguistics *already have their function*, it does not have to be 'assigned'.

This stands in stark contrast to any standard cognitivist view of grammar in the following sense. Rules such as transformational rules in a transformational grammar, for example, posit an entity-out-of-context to which they may apply. That entity is first created in some independent way, e.g. by a phrase structure grammar, and the rules then transform that entity-out-of-context so as to appear as would an appropriately contextualised entity. Thus

$$[John_1 \text{ thought } [John_1 \text{ had cut } John_1]]$$

becomes

John thought that he had cut himself

together with a collection of semantic interpretations, possible pragmatic consequences, and so on. The Hallidayan approach must claim that the entity-out-of-context is an unnecessary construct. By the correct contextualisation of *resources* only contextualised entities are permitted to appear. To posit entities-out-of-context necessitates the theoretical *duplication* of contextualisation every time generation is to proceed.

Even though the situating of a sentence within a context is accepted as necessary within standard cognitivist accounts, that situating is typically seen as proceding *via* the contextless product of a formally independent set of syntactic rules. The contrast to be drawn between this and the Hallidayan systemic view is that the theoretical mechanism of situating must operate *prior* to any grammatical product being achieved. Contextualisation, therefore, never proceeds via uninterpreted products of the grammar since no such entities are created. A good expression of this notion in

conversation analytic terms is provided by Schegloff thus:

> "The point here is that taking sentences in isolation is not just a matter of taking such sentences that might appear *in* a context *out* of the context; but that the very composition, construction, assemblage of the sentences is predicated by their speakers on the place in which it is being produced, and it is through *that* that a sentence is context-bound, rather than possibly independent sentences being different intact objects in or out of context. The latter is what artificial languages, such as mathematics, are designed to achieve. To treat natural languages in that way is to treat them as *having* the very properties whose absence has motivated the search for formal artificial languages. But it is also to continue to disattend, and indeed to deprecate, the very features that make language, and in particular its everyday interactional use, the powerful natural object that it is." (Schegloff, 1977, p101)

As Chomsky's view of transformational grammar as an explanation of linguistic *creativity* makes quite clear, the very point of transformational rules is to achieve this contextualisation of decontextualised entities. As he writes, for Descartes, the notion of creativity was crucial:

> "The essential difference between man and animal is exhibited most clearly by human language, in particular, by man's ability to form new statements which express new thoughts and which are appropriate to new situations." (Chomsky, 1966, p3)

Descartes therefore accepted that an additional 'creative'-principle was required to explain such a phenomenon; any purely mechanical explanation was clearly inadequate when confronted with "the novelty, coherence, and relevance of normal speech." (*ibid.*, p7) But in Chomsky's hands this becomes 'rule-governed creativity' and the task, naturally, is to specify the rules. Chomsky can then claim that transformational rules are the rules of creativity because (i) they contextualise decontextualised entities, and (ii) creativity, as the ability to provide "the appropriate response in any new context"

(*ibid.*, p5), is a problem of contextualisation. Combined with the Cartesian emphasis on the study of 'mind', these rules of creativity become conflated with the rules of thought, i.e. the very structure of intentionality sought by transcendental phenomenologists or the earlier Dennett. Transformational grammar is then a *competence* grammar, concerned with the decontextualised language faculty as such.

Halliday's position on this is quite clear:

> 'It is certainly true that for a speaker and a hearer to interact linguistically they must have this knowledge [of the functions of language]; but we only know that they have this knowledge because we see them interact. If therefore it is possible to describe the interaction ... as the actualization of a system of potentials, then it becomes unnecessary to introduce another level, that of knowledge.' (Halliday, 1978, p51)

Systemic grammar is essentially *performance* oriented, it is concerned with the *situated use* of language. This means that one should not be seeking a mapping from surface forms at the three levels of formal potential to their function; the development of form and the development of context must be seen as occurring in parallel, each within the bounds of possibility specified at its own level of potential. Thus, the thorough integration of 'levels of linguistic and nonlinguistic knowledge' currently being attempted in practical language-using computer systems is seen within a Hallidayan context to be part and parcel of the theory itself. The modularity of the distinct levels of potential is *defined*, via realisation, so as to avoid the generation of any product which requires subsequent interpretation.

And so, since conversation analytic research has shown both that there is very fine, detailed monitoring of discourse contributions and that contributions are extremely well designed for the particular tasks utterances are to achieve,[31] it is reasonable to claim that it would be inconceivable for there not to be a very rich interaction between the forms selected and the functions these forms achieve. However, in a Hallidayan framework, this problem of relating form and function is recast; whereas the problematic 'mapping' that has traditionally been sought is not required, some means of 'synchronising' the actualising of potential within levels and strata so that the whole activity may cohere meaningfully clearly is required. But, as sketched out very briefly in section 5 and as will become clearer in the next chapter, this is precisely what the Hallidayan conception of 'realisation' between strata is intended to achieve. Now, therefore, this mechanism may also suggest a particularly apt means of capturing the elusive relation between form and function. Furthermore, it does so in a way which maintains the interpersonal orientation as opposed to, in all likelihood prematurely, hypothesising speakers' knowledge and intentions.

It should now be clear, then, that an adoption of the Hallidayan paradigm leaves no great obstacles in the path of an integration of detailed interaction-oriented work and the fine specification of linguistic form. Schegloff's claim that there is no useful path from linguistic resources to interactional ones is

---

31. A conclusion also reached in the work of Gumperz, particularly in his development of the notion of 'contextualisation cues' (cf. Gumperz, 1982, p162).

accepted, in as much as the theory no longer seeks a function from one to the other, but its significance is now more tightly constrained. The widespread ethnomethodological belief in the fundamental incompatibility of conversation analysis and structural linguistic analysis, which makes it difficult to talk of 'formal manifestations' of context as I will wish to below, can be traced directly to the incompatibility of the inter- and intra-organismic perspectives on language. But of course, this incompatibility only lasts as long as the unnecessary 'transactional' commitment in structural linguistics is maintained. To regard 'discourse strategies' as the speaker's resources for intentionally transferring propositional information, as is prevalent in intra-organismic linguistics, does indeed create this gulf between linguistic resources (form) and categories of theories of social action (function), such as adjacency pairs. In the Hallidayan inter-organismic approach, however, linguistic resources *are themselves* resources for social action of a particular kind and so no incompatibility can arise. The development of a Hallidayan interpretation of conversation ' analytic results is therefore established as a clear research priority.

Chapter Two

Towards a Hallidayan systemic view of conversation

1. The status of discourse in prior systemic frameworks

It has long been realised that the study of discourse, that is, the study of stretches of naturally occurring linguistic behaviour which have been arbitrarily restricted in neither scope nor level of idealisation, must form an essential part of the process of coming to understand language. Furthermore, the Firthian and Neo-Firthian linguistic traditions in particular have always accepted this premise. Firth, for example, writes

> 'Neither linguists nor psychologists have begun the study of conversation; but it is here we shall find the key to a better understanding of what language really is and how it works.' (Firth, 1957/1935, p32)

For linguistics to concern itself with phenomena that were, until recently, stigmatised by the label 'linguistic performance' is now again respectable and forms the basis of much current research within both socio- and psycholinguistics as well as within linguistics itself. However, as we have seen in the previous chapter, the areas of research claimed to be of most immediate relevance to this thesis are those in which a predominantly 'sociological' approach has been adopted; this may be taken to be because the essentially interorganism nature of language reasserts itself most strikingly when we come to examine discourse.

In the more constrained linguistic domains that have been studied in depth hitherto, i.e. lexicogrammar and intonation, linguistic analysis has, for the most part, made progress without a firm theoretical statement on the interorganism aspects and functions of language being made. I do not think that this establishes the desirability of such a situation; indeed, it has been my contention that the widening of linguistic perspectives which is entailed by the consideration of discourse necessitates a general approach which is both fundamentally and explicitly intersubjective in nature. Of course, even though discourse is commonly supported by a number of participants in the speech situation, it remains a theoretical possibility that an idealisation be made entirely analogous to that which is performed within syntax, in which the basic type or mode of discourse would be taken to be monologue, all other types being variants or developments of this. For the 'language is logical outbursts of the individual soul'-theorist this must, presumably, be a coherent position to take; however, I will not discuss such positions further here.[1]

That there *is* a patterning of discourse seems reasonably uncontroversial; but, what its status might be and where theoretical statements concerning it are to be placed remains problematic. Within

---

1. Evidence for the primacy of multi-person, face-to-face discourse is now widespread. In a historical context see, for example: Sankoff and Brown (1976), Givon (1979a, 1979b), Wald (1979), etc.; in a developmental context: Keenan and Schieffelin (1976), Scollon (1976, 1979); and synchronically: Hopper and Thompson (1980), many of the ethnomethodological studies quoted throughout this thesis and chapters four and five.

a linguistic framework such as the one I have introduced three options for treating discourse present themselves. First, it might be suggested that discourse patterns were describable within an already existing functional component. For example, the lexicogrammar might be extended; this is the claim of any theory which attempts to push the upper bounds of statements of grammaticality beyond the sentence to some higher unit such as the paragraph. This not only states that there are structural relationships between sentences, but also that these relationships have the same status as those found to obtain within sentences. Second, a new functional component within one of the system's strata might be established; the currently favoured placing of intonation would exemplify this option. And third, an entirely new stratum could be added to the model.[2] These three options are ordered in terms of the seriousness of the extensions they propose for the model as a whole. Option one is the least serious, while option three amounts to a major theoretical revision. Halliday's view of discourse patterning, however, places its significance *outside* the linguistic system proper. Each actual instance of language use is said to constitute a 'text' and necessarily exhibits 'texture'. One factor which contributes to this is 'generic structure', which is

> '... the form that a text has as a property of its genre... The generic structure is outside the linguistic system; it is language as the projection of a higher-level semiotic structure. It is not simply a feature of literary genres; there is a generic structure in all discourse, including the most informal conversation ... The concept of generic structure can be brought within the general framework of the

---

2. Of course, it remains to be seen whether discourse phenomena are sufficiently homogeneous to be handled by the selection of just one of these options. Two, or even all three, might well be needed as the range of functions that discourse fulfills becomes clearer.

> concept of register, the semantic patterning that is characteristically associated with the 'context of situation' of a text... ' (Halliday, 1978, p134)

This follows a line of development that begins with Firth's suggestion that descriptive linguistics should concentrate on 'restricted languages' (1968/1956, pp87-95), where language use can be more explicitly tied to the context in which it occurs, and passes through certain approaches to 'style', including those of Spencer and Gregory (1964), Halliday, McIntosh, and Strevens (1964), Halliday (1973), and Gregory and Carrol (1978).

The underlying conception here is of uncovering regular correlations between 'contextual features' and linguistic features but attempts to articulate contextual features and their consequences for the selection of linguistic features have remained more programmatic than actual.[3] Halliday (1978), however, is beginning to move towards a more dynamic view of situation, context, and language[4] and this suggests a new approach over the essentially static formulation of contextual features that still predominates. If situation and context are interpreted in a manner more consistent with a process-oriented view, then context of situation may be more usefully interpreted as a situationally-restricted potential for meaningful courses of behaviour. Furthermore, by invoking one of the above three options for extending the linguistic system, it might then prove possible to bring certain aspects of discourse structure back within the linguistic system proper, thereby distributing the explanatory load more evenly. The following discussion offers some support for this move.

Since, for Halliday, discourse structure is a consequence of semantic patterning which is conditioned by situation, under a process interpretation, the source of the generic structures associated with particular genres would be the courses of behaviour made available by situation-types. The clearest examples of this are cases such as the task-oriented dialogues studied in Grosz (1977a and elsewhere).[5] But, in cases where the behaviour is more essentially linguistic, it is not obvious that it is the situation-type which leads in the large-scale structuring of that behaviour. The situation-type captures the social significance and meaning of the linguistic behaviour, but does not itself necessarily provide the ideal locus of explanation for the origin of the *form* of that linguistic behaviour. Three brief examples should clarify this.

Jefferson (1972) introduces the notion of the 'side sequence', a conversation analytic construct akin to those described in the previous chapter, which she describes as follows:

> 'In the course of some on-going activity (for example, a game, a discussion), there are occurrences one might feel are not 'part' of that activity, but which appear to be in some sense relevant. Such an occurrence constitutes a break in the activity - specifically, a 'break' in contrast to a

---

3. Well-known examples of the contextual feature approach are Hymes (1962, 1964) and Lewis (1972); see also Brown and Yule (1983, pp35-50) for an introduction and Enkvist (1980) for a literature survey.

---

4. He suggests, for example, that text should primarily be considered a 'sociosemiotic process' in which meanings are exchanged by interaction (1978, p139).

---

5. It also shows up very clearly in computational systemic applications, e.g. Davey (1975) and Mann (1981), where a planning process typically builds sequences of clauses or sentences *before* entering a systemic lexicogrammar.

"termination"; that is, the on-going activity will resume. This could be described as a "side sequence within an ongoing sequence"." (Jefferson, 1972, p294)

That is, within the development of some ongoing situation-type there may be a break or interruption, where a related 'sub-situation' is developed for a time, before a return to the former situation. The range of interruptions available is dependent upon the situation in which the break is to be embedded; i.e., the content and course of the break is restricted according to the situation-type and the semantic patterning that it governs. However, the *form* of the break is not so variable. In Jefferson's terms, there is language related to some ongoing activity, a suspension, and a return. More study might draw out finer details[6] which could be said to support a discourse form available by virtue of the facts that discourse is occurring and that that form exists as a potential discourse structure which is relatively independent of particular situation-types.

Situation-types are commonly interruptable in the way Jefferson describes and this fact must be included somewhere if a complete account of the linguistic realisation of situation-types is to be achieved. But, bearing in mind Halliday's statement concerning the specific nature of the sociological input to the semantic stratum, the generality of the phenomenon of side sequences might be construed as evidence that such behaviour is available to the members of a

---

6. Cf. Owen's (1981) analysis of "well"; Wells, MacLure, and Montgomery's (1981) addition of 'returns' to exchange structure; Reichman's (1981) treatment of interruptions and returns; etc. Jefferson herself suggests: "Terms like "Oh, Okay" are so frequently associated with these side sequences that they might be included into the sequence as a potential component." (1972, p317)

culture because it is a fact of the language and not a fact of all the situations where such behaviour is possible. In other words, there might be a general discourse structure that is available as a resource for use in specific situations.

The second and third examples adopt the sociologist's ploy of considering the familiar in terms of the unfamiliar that we saw at work in Garfinkel's students' task in chapter one. Grimes (1972) describes a form of narrative, which he calls 'overlay structure', that contrasts interestingly with the pattern of organisation found most commonly in the narratives of western European discourse, which, for purposes of contrast, Grimes terms 'outline structure'. On the one hand, outline structures, by and large, describe events in a simple (for us) temporally- or causally-sequential fashion, adding detail as necessary to fill in the story; overlay structures, on the other hand, are formed by repeating established components of the story and relating them each time to new details in order to bring out the varieties of relationships that the repeated components bear to the background of the story as a whole.

> "The effect of overlaying can be characterised in a metaphor: an outline structure puts semantic information into a perspective in two dimensions by coordinating parallel elements and subordinating other things to them, whereas overlay structure adds a third dimension to the other two. The repeated elements stand out in almost stereoscopic fashion by virtue of being related to several contexts that are nearly the same. Outline structures communicate relationships by dependency; overlay structures use accretion as well." (Grimes, 1972, p513)

The recounting of narratives is presumably a social event of some significance and it will, therefore, be a particular type of situation. If the structural components of the linguistic form

realising a narrative were found to be significant solely in their contribution to the fact that narration was occurring, then it would not be correct to place the structural description at the social level of situation-types. That is, in this case, an individual 'overlay', or layer in an overlay structure, might well be significant in that it continues the narration in a felicitous way without it needing to bear any additional particularly social significance of its own.

A similar, but more complex, example is provided by the distinction Becker (1979) shows between 'plot' and 'story' in Javanese shadow theatre, or 'wayang'.

> 'The distinction between story and plot is very important in studying the structure and development of a wayang text. The *plot* has been defined as a set of constraints on the selecting and ordering of episodes or motifs. The story is a prior text, fictitious or factual or both, which is the source of these episodes or motifs; it is a prior text to some degree known by the audience.' (Becker, 1979, p226)

The plot is analogous in status to Grimes's overlays; it is possible to give a detailed structural account of plots in terms of a basic structure and certain permissible structural rearrangements. These plot structures are adhered to quite strictly and, although it 'is often very difficult for the viewer, foreign or Javanese, to know just where he is in the story being presented, ... [one] always knows, however, where one is in the plot.' (*ibid.*, p223/4) Here again, the variations in structure are exploited by the performer to serve the needs of the story and have social significance only in so much as adhering to them constitutes a wayang performance. With a rearrangement in structure, one does not get a different social

event.

This appeal to 'exotic' language events serves to reveal, what Becker terms, 'iconic linguistic facts' which are "assumed by native speakers to be about the nature of the world, not about the nature of language." (*ibid.*, p218n) The existence of quite distinct iconicities in different cultures requires that they be seen as facts of language and, importantly, this can apply with equal force to our own iconic linguistic facts. Thus, as Becker notes with respect to Aristotle's constraints on plots:

> "These basic constraints all have to do with unity and causality, above all with temporal unity and linear causality - two aspects of the same thing. All of them are rooted in the simple fact that intersentence coherence in Indo-European languages is structured primarily by *tense*. Clarity and coherence *means* to speakers of these languages linear temporal/causal sequencing. Tense is seen as iconic: that is, past, present, and future are taken as facts about the world, rather than facts about language. Tense is not iconic in all language-cultures and hence temporal-causal linearity is not the major constraint on textual coherence in all languages." (*ibid.*, p218)

The clear lesson to be drawn from the above examples is that it would be wise to avoid premature placement of the properties observed in discourse. If placed at the level of the situation-type, a structural description constitutes a statement of social structure; if placed within language, it constitutes a statement of linguistic structure. It should not be the case that the establishment of structure of some kind in language necessarily entails, by virtue of the theory, that that structure should represent a statement of social structure or meaning.

Halliday clearly accepts this for lexicogrammatical structure, but does not appear to consider the possibility of it holding for discourse structure also. Whether or not some distinct level of discourse is to be found remains, at this stage, an empirical matter. A theoretical framework must, therefore, be capable of supporting statements concerning such a level both should the need arise and, also, in order to investigate that need most effectively. Halliday's account as it stands does not admit the possibility of separate discourse structures and social structures and so will conflate important distinctions if an independent level of discourse structure in fact occurs. In addition, since it is already the case, as we saw in the previous chapter and as I claimed in the introduction, that there appear to be useful statements of a sequential nature that can be made independently of content, these may well serve as preliminary candidates for such a level of discourse; I will address this further below.

It should be noted, however, that the much maligned and misinterpreted[7] Halliday and Hasan (1976) does suggest the existence of discourse structure, although it is not clear how it might be incorporated within the rest of the framework. For example,

> "There is no need here to labour the point that the presence of certain elements, in a certain order, is essential to our concept of narrative; a narrative has, as a text, a typical organisation, or one of a number of organisations, and it acquires texture by virtue of adhering to these forms." (p327)

This suggests that the lack of a well articulated account of the status and role of discourse in the Hallidayan theory could be more a

---

7. At least, that is if it is to be made sense of within the context of Hallidayan linguistics as a whole.

consequence of insufficient development than of the theoretical position that is adopted. Such a position is clearly held by Hasan; for example:

> 'the assumptions here can be stated as follows: associated with each genre of text - i.e. type of discourse - is a generalized structural formula, which permits an array of actual structures. Each complete text must be a realization of a structure from such an array.' (Hasan, 1977, p229)

However, certain general problems with orientations to the notion of 'discourse structure' such as Hasan's remain; for example, one immediate problem is in the formalisation. Hasan follows Mitchell's (1957) Firthian approach which divides speech situations into 'functionally'-labelled components; e.g. the ordered sequence:

Identification Application Offer Confirmation

in the context of applications by prospective patients to arrange medical appointments (Hasan, 1977, p233). As with Mitchell, there are no formal grounds available for allocating these functions to actual utterances and it is unclear in what sense such structures can be labelled 'textual' as opposed to 'situational'.

A related, and strictly linguistic, theoretical framework which does include a significantly developed view of discourse patterning is that of the English Language Research Group at the University of Birmingham. Their basic position, described in Sinclair and Coulthard (1975), and Coulthard and Brazil (1979, 1981), is centred around the concept of the 'exchange' which, they argue, is to be seen as the discourse unit concerned with the transmission of information. The original conception of exchange structure was developed in the analysis of language interaction between teachers and pupils in the

classroom, and is similar in many respects to the, superficially simpler, 'adjacency pair', or sequence organisation, used by ethnomethodologists. Coulthard (1975), in order to justify the development of the 'exchange structure' account,is one of those to criticise the ethnomethodologists' restraint concerning formalisation and cites Labov's point that

> "...formalisation is a fruitful procedure even when it is wrong: it sharpens our questions, and promotes the search for answers." (Labov, 1972, p121)

The Birmingham group then attempts to consider discourse analysis in a more formal light by interpreting Halliday's (1961) early scale and category grammar as an "explicit, abstract discussion on the nature of linguistic description" (Coulthard and Brazil, 1981, p86), which can, therefore, also be adapted for the particular needs of discourse.

This involves concentrating on conditional relevance, or 'continual classification' as Sinclair and Coulthard (1975) term it, as the organising principle of discourse patterning. The *function* of an utterance in discourse is considered to be just its consequences for continual classification; this is a quite deliberate restriction on the meaning of 'function' so as to highlight particular discourse issues and it is always necessary to remember that in the work of the Birmingham group 'function' is being used in this way. Burton (1980) makes this clear:

> "The classroom description lists, amongst its 'Acts', an item labelled 'Aside', where the teacher might mutter to himself something like: 'Now where did I put the chalk?'... Now clearly, in some functionalist models it would have a very definite function - 'phatic' perhaps... Within the working of the actual conversation, however, it serves no prospective or retrospective function. That is, it neither sets up an

expectation for a following utterance, nor fulfills one from a previous utterance. It is in this sense, then, that it has no function." (p120)

The descriptive framework Sinclair and Coulthard develop, being based on Halliday (1961), remains a neo-Firthian position in that the functional organisation provided by the semantic stratum of Halliday (1970 and later) is absent. However, their restricted view of discourse function, in which continual classification plays the central role, permits a further level to be interposed between Firth's semantics and the formal levels of grammar. Their construction of a discourse component therefore adopts the third, most serious, possible option for the extension of the linguistic system I described above; that is, they decide on building a new level into the descriptive framework. This is analogous to the development of Halliday's semantic stratum, but is restricted to be solely concerned with the patterning of discourse.[8]

They justify this step by showing the independence of the units posited at the formal and their functional levels. Within Halliday's (1961) framework, and as is generally accepted concerning syntax and phonology, there is no need for there to be a simple relationship of constituency holding between the units of distinct levels; this is a general motivation for the existence of distinct linguistic levels. Within any single level, constituency relationships between the units suggested are to be expected and, in Hallidayan-type frameworks this

---

8. In fact, Sinclair and Coulthard explicitly claim that Halliday's later view of function did not provide them with a useful starting point - a claim which has been criticised by Berry (1981a) and to which I will return in section 4.

is expressed in the notion of a 'rank scale' which organises the units of a level into a constituency hierarchy: units at any point in the rank scale have as elements units from the point below and themselves form elements of units at the point above. A typical simplified rank scale cited for the lexicogrammar is, for example, 'morpheme: word: group: clause' (Halliday, 1978, p129).

The relationship between levels is not one of constituency but one of realisation. A morpheme does not 'consist of' phonemes but is instead realised by phonemes; the plural morpheme may or may not be realised as a syllable, and when realised as a phoneme may be either /s/ or /z/. As a direct analogy to this, Sinclair and Coulthard point out that their smallest discourse units can be realised in a wide range of grammatical units and it is not possible to explain this variety in terms of constituency. Discourse units are of a different kind than grammatical units and the difference goes beyond the relative 'sizes' of the units involved.

Thus, to consider their discourse unit 'directive', the *function* of which is "to request a non-linguistic response" (Sinclair and Coulthard, 1975, p28), any directive, for example one to 'shut the door', can be realised by a range of lexicogrammatical forms which include:

> "can you shut the door
> would you mind shutting the door
> I wonder if you could shut the door
> the door is still open
> the door" (*ibid.*)

in addition to the obvious imperative. The rank scale Sinclair and

Coulthard propose for their functional discourse level is 'act: move: exchange: transaction: interaction' (*ibid.*, p135) and a number of studies have now been carried out using this scheme of analysis. However, with the system as it stands the commitment to sociofunctional organisation present in Halliday's theory has been seriously circumscribed and it is not clear how that breadth of scope is to be regained. This calls for an examination of the possibility of recasting Sinclair and Coulthard's approach into the mostly Hallidayan terms I am using here. Therefore, I will conclude this section by showing that Sinclair and Coulthard's discussion of the status of discourse succeeds neither in supplanting a Hallidayan view of semantics nor in establishing discourse as a distinct stratum within the linguistic system. This will make it clear precisely which aspects of an exchange structure account can offer any hope for a formalisation of discourse and so will prepare the ground appreciably for the development I present in section 4.

An immediate point of contention between the two frameworks is the linguistic stratum that is to mediate between the social and the grammatical. Halliday's semantic stratum is more explicitly tied, both upwards and downwards, to the rest of the system and provides a useful initial factoring of the phenomena to be considered. It is, though, centred on the clause, or clause complex (sentence), and only allows for discourse structure by having the situation give rise to non-structural 'cohesion' between clauses, thereby imposing ill-specified 'generic structure'. Sinclair and Coulthard's functional level tries to make a formal statement concerning the

structural patterning of discourse, or linguistic interaction, which is part of what is required here, but it does not incorporate a well developed theoretical viewpoint from which to investigate the functional, in a wider sense, relationship between language in general and social organisation.

As might be expected from their Firthian ancestry, Sinclair and Coulthard do briefly discuss their ideas about the relation between the levels of discourse and of situation. However, even though they adopt the structural descriptive system of Halliday (1961) for their level of discourse, Sinclair and Coulthard, and later Coulthard and Brazil, still maintain that interaction is more a social than a formal phenomenon. In fact, as may be seen in the following, they use this as an additional informal justification for their proposal of a distinct level of discourse. This may be seen as follows.

By means of introspection a speaker may detect, and spontaneously correct, grammatical 'errors', but this is not held to be the case for discourse 'errors': they will generally be interpreted as misunderstandings rather than linguistic mistakes. For example, in a discourse segment such as

"A: So the meeting is on Friday
B: Thanks
A: No, I'm asking you." (Coulthard and Brazil, 1979, p16)

there is nothing which can be analysed as violating the rules of discourse in the way that a string such as

Friday meeting the on so is

is said to violate the rules of grammar. The structural description

at the functional level serves to formalise the framework of continual classification by which successive utterances are interpreted as contributions which fit their prevailing discourse situation. Although almost anything *can* appear as a discourse contribution, the structural frame in force will determine how it is understood. Furthermore,

> '...if a speaker's behaviour *is* heard as deviant the deviance can be most satisfactorily characterised as deviance from a *social* norm. This is popularly recognised in the use of labels such as 'rude', 'evasive', and 'eccentric'.' (*ibid.*, p17)

At the formal level of the linguistic system, i.e. the grammar, structural constraints are considered far more binding and, when contravened, Coulthard and Brazil claim it is not usual for *social* significance to be attributed to the fact. This, for the Birmingham group, is seen as good evidence for their functional discourse level occupying the level between situation and form.

There are, however, two quite general criticisms that can be made of this. It is certainly agreed by those who work within frameworks related to the Hallidayan or Firthian views of the linguistic system that some level, or stratum, should exist to mediate between situation and form; for example, in addition to Sinclair and Coulthard's (1975) adoption of 'discourse', Berry (1977) suggests 'context', while Gregory (1983) has a 'semology'. Halliday's 'semantic stratum' is the broadest in scope of these and, as a consequence of this, it is sometimes unclear what *specific* work his semantic stratum is performing. As a consequence of this, there is a distinct tendency for Halliday's pre-theoretical discussion of the scope and power of the stratum which is to mediate between situation

and form to be replaced by theoretical constructs which are more narrowly delimited and, hence, more amenable for analysis. While this may prove to be a necessary price to pay, it does seem unwise to limit it prematurely to any such notion as a level of discourse which, consisting of the units which make up its rank scale and the systems of choice associated with them, only captures one specific 'dimension' of the meaning of a text or discourse: e.g., the dimension singled out by Sinclair and Coulthard's restricted definition of function. The particular functions the stratum is to serve is one question best answered by the formulation of an explicit description of data and not by a prior restriction of the theoretical framework.

If a level analogous to Sinclair and Coulthard's discourse level should prove itself useful - whether it be as a component of a semantic stratum or at some other level of description - then there still remain two possible positions for it within the linguistic system. It may either be interposed between the lexicogrammatical and intonational levels of form and the organising semantic or situational stratum or, alternatively, be added alongside the lexicogrammatical and intonational levels within the stratum of form. The first possibility entails that discourse patterns are realised in lexicogrammatical and intonational distinctions, while the second presents discourse structures as *formal* resources which, along with the lexicogrammar and intonation, realise the situation, possibly as mediated by the semantics. Coulthard and Brazil's (1979) observation that there appears to be a difference between discoursal and

grammatical structural constraints is not sufficient to eliminate the second of these possibilities in favour of the first. They write,

> '[With discourse] we are concerned with an object created by the combined efforts of more than one speaker, and under these circumstances it is difficult to see how *anything* can be ruled out as 'not discourse'. To set out with the expectation that such a ruling will be possible might, indeed, seem counter-intuitive. There is no way in which one speaker can place absolute constraints upon another speaker in any sense comparable with the way his apprehension of grammatical rules will block the production of certain sequences of elements within his own utterances.' (1979, p15)

This reflects a tendency inherent in Sinclair and Coulthard's discussion of orientation which considerably weakens their claim that they are able to build both subjective and objective aspects of language into a coherent model of verbal communication.

A speaker is said to create a 'private linguistic universe' and this, to some extent, is undoubtedly true. However, it is also necessary to have some account of the limits of that privacy for, without this, it is all too easy for private linguistic universes to become altogether too private and the theoretical explanation of intersubjectivity that renders cognitivist approaches so problematic is again precluded. To talk of speakers putting constraints on other speakers is to adopt the speaker-bound perspective inherited from syntax. Constraints are brought to bear by situations on the participants in, and carriers of, those situations. Utterances restructure situations and so, via those situations, cannot help but bring constraints to bear on participating speaker/hearers. 'Halfway through a clause' certain expectations will have been set up; this is the consequence of the range of potential available being restricted by the actualisation that has already occurred. Precisely the same

state of affairs will hold 'halfway through a discourse'.

A speaker actualises potential but it is inaccurate to suggest that that potential 'blocks' the generation of ungrammatical sequences: ungrammatical sequences can be, and in fact frequently are, generated. This cannot in general be considered a violation of the potential available, a performance error, because the competence-performance distinction as drawn by Chomsky in terms of 'knowledge' is not recognised within this framework. Linguistic potential is to account for what speakers actually do, mean, say, etc., not what they should according to prescriptive notions of grammaticality:

> '... what is grammatical is defined as what is acceptable. There is no distinction between these two, from which it also follows that there is no place for a distinction between competence and performance or between *langue* or *parole*, because the only distinction that remains is that between the *actual* and the *potential* of which it is an actualisation.' (Halliday, 1978, p52)

Coulthard and Brazil argue that 'grammaticality' is not a useful concept in the field of discourse analysis and this, far from establishing a typological distinction between discourse and grammar, instead merely provides further support for the removal of the competence-performance distinction from linguistic theory.

Coulthard and Brazil go on to conclude that,

> 'The most promising theoretical assumption seems to be that a speaker can do anything he likes at any time, but that *what* he does will be classified as a contribution to the discourse in the light of whatever structural predictions the previous contribution (his own or another's) may have set up.' (1979, p16)

As long as being able to 'do anything he likes at any time' is

understood to be a free actualisation of the potential available, this assumption is as valid for lexicogrammatical potential as it is for discourse potential. Furthermore, their point that discourse behaviour classified as deviant deviates 'from a *social* norm' also fails to separate discourse and lexicogrammar into distinct strata. Deviance at a lexicogrammatical, or even phonological, level similarly evokes a social judgement; the slurring of words might classify the speaker as drunk or someone with a speech impediment of some kind, while odd grammatical structures might suggest an eccentric or nonnative speaker. Quite where a distinction can be drawn once the notion of grammaticality is removed is unclear.

2. The shape of the linguistic system adopted

For the above reasons, then, the organisation of the linguistic system that I shall adopt as an 'initial hypothesis' will be extended as shown in figure 1. This is an hypothesis in the sense that it is only by attempting to analyse data according to this framework that its particular strengths and weaknesses can be examined. In its present stage of development it represents a metatheoretical position: it provides not only a skeleton within which particular linguistic hypotheses can be entertained as data are considered, but also levels of idealisation for the gathering of that data.

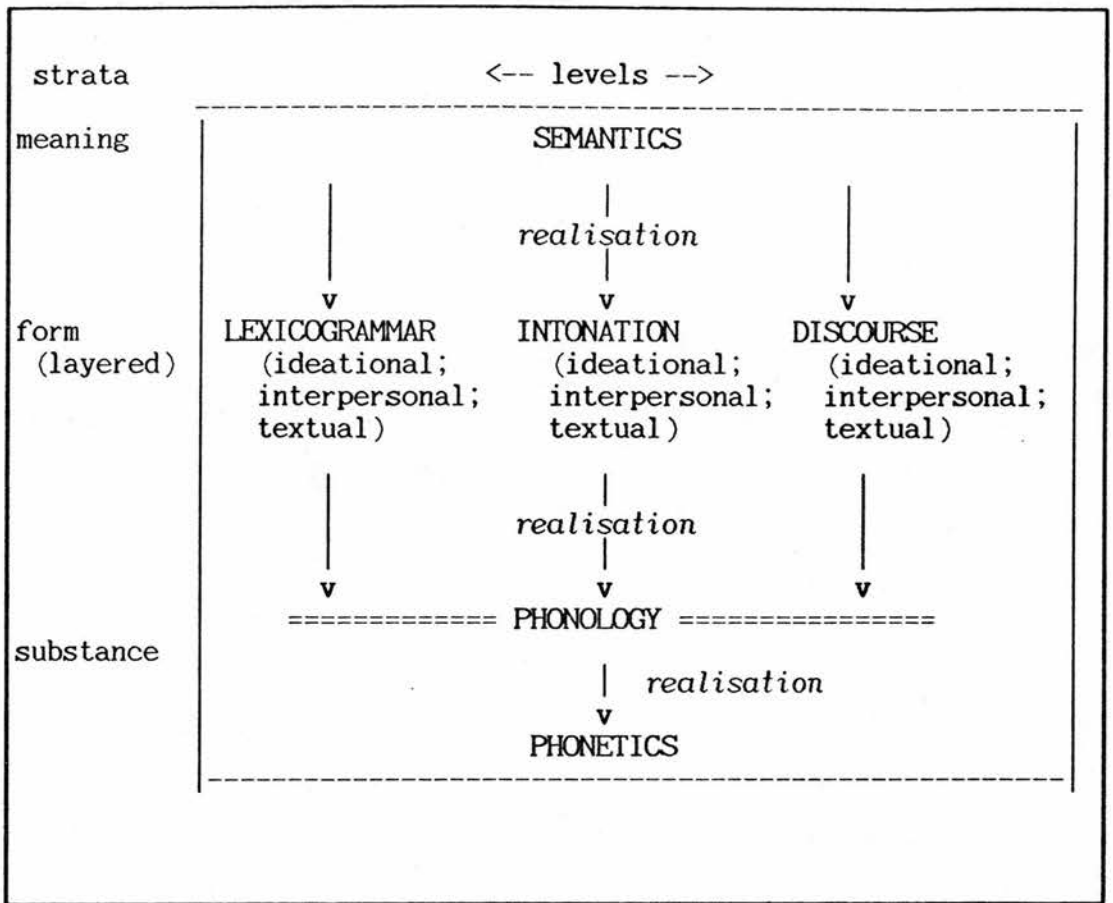


Figure 1:
The shape of the linguistic system initially adopted

It also achieves the requirements outlined above of separating social and discourse structure. Furthermore, the general 'layering' brought about by the semantic stratum offers a potentially useful heuristic device for focusing attention during the analysis; in fact I will be concerned here primarily with phenomena which have been classified as arising out of the 'textual' metafunction - all the constructs listed in figure 2 of the introduction may be so classified. In addition, the framework as it stands encourages investigation of the relationships that hold between the levels of

lexicogrammar, intonation, and discourse within the formal stratum; of the realisation relationships that hold between strata - neither of these kinds of relationship has been dealt with satisfactorily hitherto; and of the possibility that the formal resources, particularly those of the discourse level, might offer an organising framework for ongoing contexts of situation - this would permit useful generalisations to be made across contexts without the need to resort to an unconstrained metalevel which could open the door to infinite regression and unexplanatoriness. These investigations will constitute the body of chapters four and five below.

It should also be noted that my multi-levelling of the formal stratum is intended to leave the question of the precise relationship between the formal levels as a matter for empirical investigation. The discussions of the previous section should have made it clear that there is at present no clearcut solution to the relative positioning of these levels within the linguistic system as a whole. The analyses presented below will, therefore, attempt to address this issue.

3. The computational Hallidayan grammar 'Nigel'

In this intermediate section of the chapter I will briefly sketch out an existing, highly detailed implementation of a systemic-type framework in order to make the discussions of systemic linguistics and of the accounts placed within systemic linguistics that follow more concrete. It should be noted that in my subsequent

development of a discoursal level of organisation, I will be assuming the supporting environment of some framework such as the one I describe in this section.

I will proceed in two stages. First, I will introduce the implementation and some of the concepts upon which it is based - this will also serve to clarify the general introduction to systemic linguistics I have given above. And second, I will discuss certain alterations which may need to be made to the framework as it stands if it is to be fully compatible with the general organisation of the linguistic system that I suggested in the previous section.

The origins of the framework as a whole are described in Mann (1981, 1982) and the framework itself is introduced in Matthiessen (1981). Detailed accounts of the framework's grammar component, which is called 'Nigel', are given in Mann (1983b), Mann and Matthiessen (1983b), and Matthiessen (1983, 1984a, 1984b). This component represents an attempt to specify a domain-independent, text-generation module in the form of a systemic grammar. However, although it is argued that a systemic approach is ideally suited to computational requirements, this will not be the aspect of the system that I focus on here. The primary importance of this work for the approach I am suggesting in this thesis lies in the new heights of explicitness and detail, simultaneously combined with breadth of linguistic coverage, to which 'Nigel' takes linguistic description compatible with the Hallidayan paradigm.

The two basic dimensions of organisation around which systemic accounts revolve are the paradigmatic and the syntagmatic - or, as Halliday (1963) has termed them, the 'axes of chain and choice'. Very loosely, one can say that the former corresponds to standard structural views of linguistic organisation, whereas the latter corresponds to the choices that can be made between available structures. In Nigel, following later Hallidayan positions, these axes are held quite separate and choice is given the central organising role.[9] This means that grammatical 'creativity' resides solely in the repeated making of choices, which have themselves been made available by prior choices. Such choices are grouped by 'system' and each system, when 'entered', makes available a set of alternatives, called grammatical 'features'. Systems are then connected together to form networks. The set of features generated by traversing networks in order to reach any given system defines the 'entry conditions' for that system.

The entire Nigel grammar is, in fact, constructed as one large network and the first, i.e. least 'delicate', in systemic terms, choice is that of 'rank'. The network segment for the first two steps in delicacy is given as an example in figure 2. The process of generation then proceeds in 'cycles' of actualisation: throughout actualisation the grammar is entered at the least level of delicacy, choices are made until the maximally delicate distinctions have been drawn and then, if another cycle is called for by the selections that

---

9. As I mentioned above, there have been criticisms of the abandonment of the Firthian strict interdependence of chain and choice. However, I think that the Nigel framework demonstrates that fears concerning the viability of this move are ill founded.

have been made, the grammar is re-entered at the least level of delicacy for that further cycle. This is repeated for as long as is required.

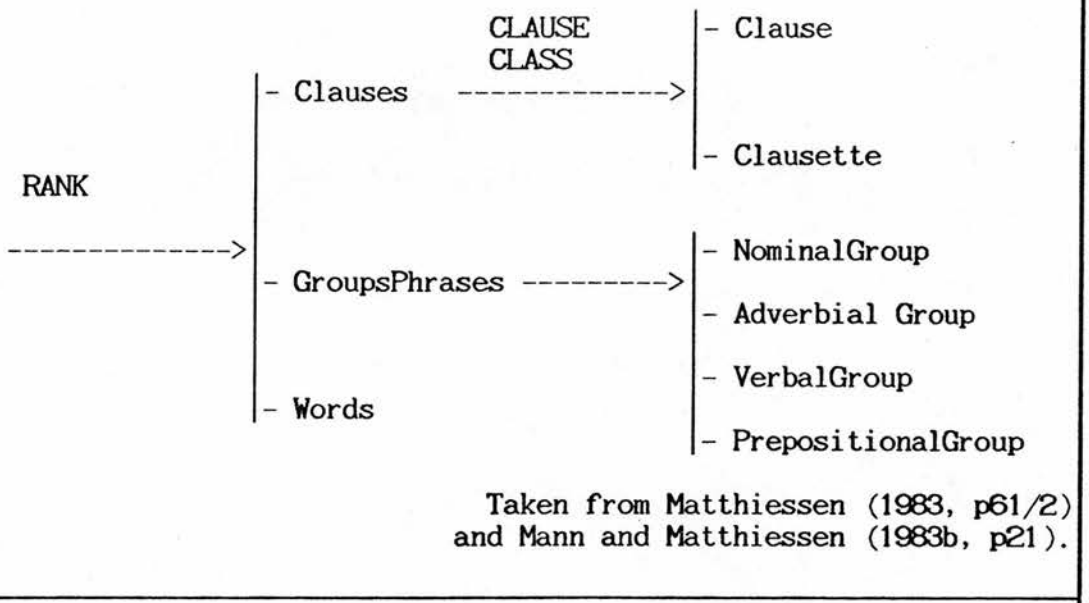


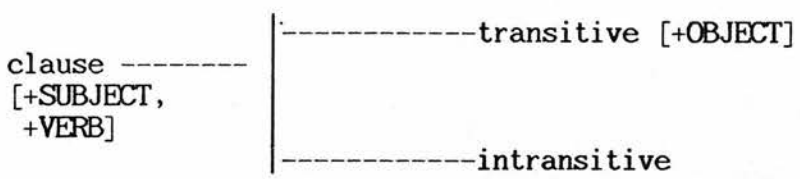
Figure 2: Nigel's least delicate system networks

The result of a single cycle of actualisation, or traversal through the grammar network, is a complex list of the grammatical features that have been selected; this is the paradigmatic organisation of the linguistic unit being generated along a particular plane of structural decomposition, e.g. clause, group, or word. It is then necessary to specify the syntagmatic organisation also for it is this which constitutes the final 'output' of the grammar. That is:

> 'One cycle can be defined as one complete move from the paradigmatic axis to the syntagmatic axis. Each cycle begins with an entry of the system networks and ends with a structure fragment.' (Matthiessen, 1983, p67)

This is achieved by means of realisation which, within Nigel, is defined as follows.

Within the systemic framework structure is specified in terms of ordered sequences of constituents which are composed of grammatical 'functions'.[10] In Nigel terminology these constituents are called function bundles, or **fundles**. As an extremely oversimplified example, the following network constructs the clause structure for either transitive or intransitive sentences or clauses.



This corresponds extremely loosely in the structures that it generates to the phrase structure rules:

S -> NP VP
VP -> V (NP)

Whereas in the phrase structure approach one directly represents the structures one wishes to create, with the systemic grammar one first selects 'choices' which capture the meaningful distinctions one believes the differences in structure represent; in this example, then, the network amounts to the claim that what is significant about the structures that result is whether they are to be classified as being transitive or intransitive.

---

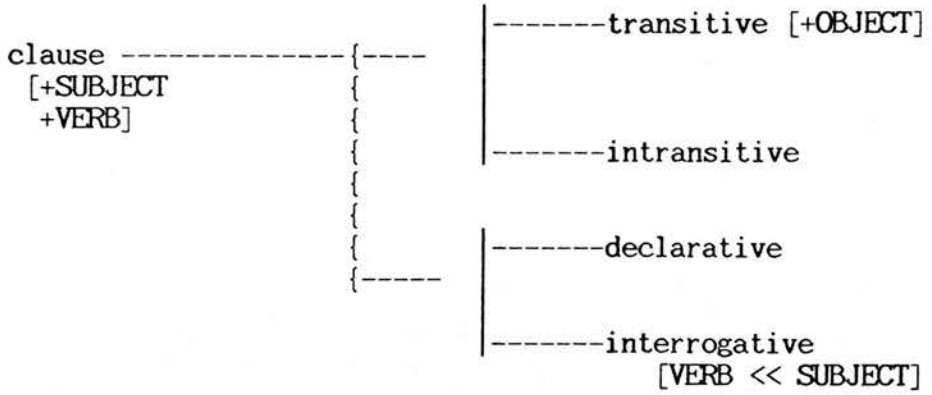
10. These have also been termed 'micro-functions' - historically as contrasted with 'macro-functions', Halliday's earlier term for the metafunctions.

The actual creation of structure is made derivative to the making of choices by associating with those choices certain kinds of operations upon the syntactic structural elements which form the final output of the grammar. Here, then, these elements are represented by the items enclosed in square brackets; those associated with the clause state that there will be structural elements inserted in the final clause which are to be given the functional labels 'SUBJECT' and 'VERB'. Consequently, only if the choice is made to generate a transitive clause is the structural element labelled OBJECT included in the final structure. Finally, any residual ordering problems left unspecified by the choices actually taken in generation are resolved by referring to default 'function order lists'. The two structures built by the above network are then:

[SUBJECT, VERB, OBJECT] and [SUBJECT, VERB]

corresponding to whether the top-most choice was taken or the lower choice respectively.

The grammar as a whole operates by continually making those choices which its connected networks lead it to consider. These choices introduce and subsequently arrange the functional elements which go to constitute the final structure. As an example of the default ordering mentioned above being overridden, one could introduce the possibility of interrogative forms in the above network simply by specifying another parallel network whose choices are to be made in addition to those specified in the first network thus:



In this case, if the option declarative is taken in the second network, then the output remains as it was before. However, if the interrogative option is now taken, then the structural element which is labelled as the verb would be ordered before that labelled the subject - thus capturing the simplest form of questions in, for example, French or German. Although actual systemic grammars do not draw their grammar of English in this way, the general principles of their operation - i.e. the continual making of choices which have structural consequences - nevertheless remain the same.

To take a more realistic example then, the complete structure specification at the clause level of the clause

This gazebo was built by Sir Christopher Wren

is as follows:[11]

---

11. This is taken from Matthiessen (1983, p71).

(THEME TOPICAL) (MOOD SUBJECT GOAL MEDIUM	FINITE) PASSIVE	PROCESS PASSIVE-PARTICIPLE	AGENTMARKER	ACTOR AGENT
This gazebo	was	built	by	Sir Chris...

Each column represents a set of grammatical functions which have been conflated to yield a single clause constituent. These functions help perform two main tasks: the correct specification of ordering at each level and an appropriate restriction of possible lower level realisations of constituents.

This syntagmatic level of representation is built up, then, by means of realisation statements associated with the paradigmatic level systems of choice. More specifically, grammatical features, as well as being able to lead on to further systems of choice, can also call for various operations to be carried out at the syntagmatic level. In the first simple networks above these were the operations that were specified within square brackets. Nigel defines just three types of such operations: those that constrain ordering (termed: **Order**, **Partition**, **OrderAtEnd**, and **OrderAtFront**), those that actually introduce and build structure (**Insert**, **Conflate**, and **Expand**), and those that have consequences for subsequent cycles of structure generation (**Classify**, **OutClassify**, **Lexify**, and **Preselect**); these have been found sufficient to handle an extremely wide range of English grammatical structures. The fine details of the realisation phase of generation in a systemic grammar has not previously been specified as completely as has now been achieved within the Nigel framework.

Below, in order to clarify this approach somewhat, I will present brief examples of the clause and nominal group generation processes.

At the opposite 'end' of the grammar, i.e. above rather than below, comes the semantics and in this area Nigel moves well beyond earlier systemic accounts. The essential construct here is that of the 'chooser'. This is a process which describes on what basis the choices available in a system network are to be selected. It is in the operation of the grammar's choosers that text generation is made responsive to what is to be required of the final text. As the Nigel framework has been devised for use in a computational context, it takes the form of a grammar 'module'. Outside of the module there is assumed to be some knowledge representation and reasoning system of the standard sort that is currently employed in AI and cognitive science applications. Precisely *which* knowledge representation system is irrelevant since Nigel includes an interface which constrains the grammar's interaction with its 'environment' to quite specific patterns of question and response. As long as the knowledge representation system is able to make the distinctions the questions put to it call for, its precise details remain of no concern to the grammar.

The interface between grammar and environment is, in fact, constructed from the choosers which specify how alternative paths through the grammar are to be selected in particular contexts. The choosers reach a decision as to which choice is to be made by putting specific questions to the environment. These questions are couched in

a formally defined 'inquiry language' - for details of which see Mann (1982, 1983a) and Matthiessen (1984a). Here again, it is the grammar which leads the inquiry process. A chooser only becomes active when the system network with which it is associated has been reached by the prior alternatives appropriate having already being selected. In Mann's phrase "all initiative lies with the grammar". The environment never volunteers information of its own accord; interaction proceeds solely by virtue of the determinate questions put by the choosers and the connectivity of the system networks.

Formally, a chooser may be structured as a decision tree whose nodes consist of the inquiries to be put to the environment. An example is given in figure 3; this will be used in the illustration of nominal group generation that I give below. Each choice point in the grammar has such a chooser-tree attached to it so that the environment may be interrogated and a choice that is appropriate to that environment made. The 'only' constraints this places on the environment are that the environment is able to respond appropriately. This means that the environment has at least to support those distinctions represented in the choosers' questions. In other words, the choosers are intended only to ask questions sufficient to select among the (very) finite number of options they have on hand. This assumes that the selection of one choice over another in some network always carries the *same distinction* (or set of distinctions) in meaning.

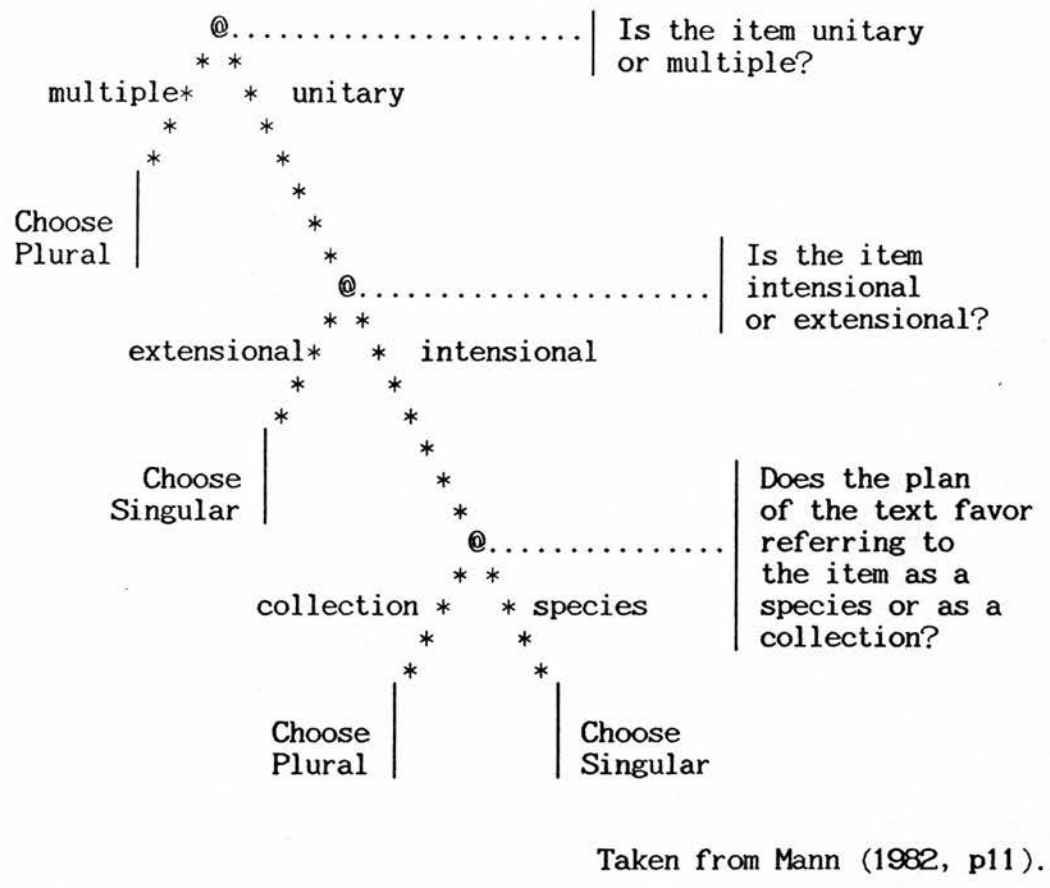


Figure 3:
Chooser decision tree for the nominal group Number system

This approach to semantics has had some quite beneficial results. For example, the formalisation of the questions that are needed to make a grammatical choice appropriately provides indications of the types of knowledge that the environment will be required to support if it is going to be able to control correctly various aspects of the language. These types of knowledge range from the quite specific - for example, the need for representations that distinguish between definite existence, hypothetical existence,

conceptual existence, and nonexistence of actions[12] - to a general organisation of the knowledge held in the environment according to the grammar's use of that knowledge. This latter organisation has provided some support for Halliday's conception of linguistic metafunction. There are at least two areas of knowledge which are kept distinct by the inquiries of the grammar's choosers; that is, a system will need information from one area or the other, *but not from both*, in order for its choice to be made. These areas are called the Knowledge Base and the Text Plan and appear to correspond well with Halliday's ideational and textual metafunctions respectively.[13]

One point which needs to be stressed, however, is that the environment is not to be construed in Hallidayan terms; the goal of the Nigel grammar is to provide one module of a complete text generation system understood in the established cognitive science sense. And so, although

> "There is an obvious correspondence between the term *environment* and the term *context* from Firthian linguistics ... it is better to use *environment* so as not to make or suggest any implicit assumptions about the nature of what is outside Nigel." (Matthiessen, 1983, p59n)

Nevertheless, the environment is intended to be where 'intentions to communicate', 'text plans', 'world knowledge' and the like reside. Thus an intention to communicate a given message is first generated and the central problem faced by the grammar becomes: "How can choices be made to conform to a given intention to communicate?" (Mann, 1982, p4) This is contrary to the more general view of

---

12. Mann (1983b, p12).

---

13. Mann (1982, p17/8; 1983a, p11).

language inherent in the Hallidayan paradigm and conforms more with the traditional AI view of language as a 'pipeline' between speaker and hearer - the so-called 'conduit' metaphor of Reddy (1979). Although this can be a useful position to take in some contexts, here, where I am seeking an approach *fully* compatible with the Hallidayan paradigm, a different emphasis is required.[14]

An albeit sketchy illustration of the significant components of clause generation as performed in Nigel will nevertheless help to place the various constructs and mechanisms introduced so far.[15] To make the illustration more concrete I will consider the generation of one particular clause:

John dislikes the lion.

Now, the state of affairs that is taken to hold prior to entering the grammar for generation to proceed is as follows. First, there is present in the environment some representation of the particular *meaning* of this clause that the choosers may interrogate subsequently. And second, there is some quite detailed specification (ideally to be constructed by text planning algorithms) of the particular properties of the environmental entities capturing the clause's meaning that are to find expression in the clause to be generated. Examples of the use of this latter information, which is grouped together to form a **presentation specification**, will be given below in my illustration of *nominal group* generation.

---

14. Indeed, there is now increasing criticism of the conduit approach to language production and interpretation in AI; see, for example, Appelt (1982, p8) and Boguraev (forthcoming).

---

15. Although certain simplifications will be made here in the actual details of the structure generated.

Regardless of how the information of any particular environment is actually organised, the grammar considers it to be structured in terms of a network of hubs by which the information necessary for representing the meaning to be expressed may be accessed conveniently. Such hubs are only known to the grammar by arbitrary, content-free labels provided by the chooser-environment interface. Thus, when the grammar needs to ascertain information about the meaning to be expressed in this case, the chooser-environment interface makes available a name, e.g. 'LION-DISLIKING-EVENT', which will regularly pick out the area of knowledge responsible for representing the above clause's meaning - whether that be expressed in a frame-based notation, a set of propositions in a logic-based formalism, or whatever. Furthermore, these hubs are only made accessible to chooser questions via association with grammatical *functions*. This level of indirection permits chooser questions to be expressed independently of the particular hubs being addressed in particular generative cycles. The associations between hubs and functions are maintained in a **function association table**, via which all chooser questions proceed.

Every cycle of generation, for example, starts thus. First, the function association table is cleared and then the specially distinguished function **ONUS** is associated with the hub labelling the entire meaning to be expressed by that entry to the grammar. In this case, the function association table would be initialised to:

ONUS : LION-DISLIKING-EVENT

Chooser questions concerning this aspect of the meaning to be expressed then proceed via ONUS rather than via the hub directly. Hence, the first chooser question to be asked, which arises from the chooser for the *rank* system depicted in figure 2 above, is as follows:

> *Does the hub associated with* ONUS *have an illocutionary force?*
> (cf. Mann and Matthiessen, 1983b, p21)

This question is part of the reasoning about whether the unit to be generated is to stand alone as a clause or is to be part of some larger unit that carries the illocutionary force. Here the answer is 'yes' and so the grammatical *feature* 'Clauses' is selected in the network. Subsequently, more specific aspects of the meaning to be expressed may be accessed via indentifying chooser questions such as:

> *What concept is the process part of the hub associated with ONUS?*
> (cf. *ibid*, p23)

which might associate the label returned as an answer (e.g. 'LION-DISLIKING') with the grammatical function PROCESS enabling further questions of the form:

> *What is the entity which the hub associated with PROCESS affects or is directed towards?*
> (cf. *ibid.*, p33)

If the answer to this query (say 'LION347') was then associated with the grammatical function GOAL, the state of the function association table following these three chooser questions would be:

ONUS	:	LION-DISLIKING-EVENT
PROCESS	:	LION-DISLIKING
GOAL	:	LION347

A frequently used abbreviation in chooser questions of Mann and Matthiessen's that I will adopt here is: 'LION-DISLIKING (PROCESS)'; this is to be read as 'the hub LION-DISLIKING associated with the

function PROCESS'. It should again be noted here that the chooser questions that are found to be necessary for controlling the choices the grammar can make in fact place strong *grammatically-motivated constraints* upon the kinds of information a knowledge representation will need to support if it is to control appropriately the aspects of language the grammar captures.

The use of choosers and the function association table to *control* the generation process is an addition to the systemic framework specific to Nigel. Below the level of the choosers, the organisation and mechanisms of the grammar are similar, although more explicitly specified, to previous systemic accounts. The actual generation of *structure* remains the sole responsibility of the system networks. Thus, although the function association table may contain an association of a hub representing John as the disliker of the lion (say 'JOHN') with the grammatical function ACTOR, enabling chooser questions to perform various deductions concerning that hub, unless a choice is made in the system networks that explicitly calls for the *insertion* of the ACTOR function into the structure of the clause, the presence of that function in the association table will *have no direct result on the structural output of the grammar*. For example, at this point in the generation of the present case, if the initial text plan rendered expression of *who* was doing the disliking unnecessary, the grammar could just as well produce 'The lion is disliked', where no ACTOR consituent has been constructed.

The generation process is, therefore, extremely simple in

concept. Each system that is reached by the path created by prior choices made presents its own range of further choices. The choice that is appropriate at that particular point is then negotiated by the interaction between the system's chooser and the environment. That interaction is *transparent* to the system itself: all the system is responsible for is the appropriate connectivity of the choosers (linking upwards to semantics) and of the realisation statements (linking downwards to syntactic structure). Thus, each choice, in addition to possibly leading on to further systems, may via realisation statements place constraints on the configuration of functions that is being produced as the structural 'output' of the grammar. So far the grammatical functions ACTOR, PROCESS, and GOAL have been mentioned in relation to identifying the various participants in the meaning of the clause and the relationship between them. To conclude this brief illustration of clause generation I will accept these functions as having already been inserted into clause structure in order to consider how further systems serve to determine their appropriate ordering in the final clause.

In chapter one I suggested that the Hallidayan conception of 'structure' offered a more general standpoint by virtue of the recognition of at least three 'layers' of functional decomposition corresponding to the three metafunctions: the actor-process-goal articulation derives from the ideational layer. Accordingly, other areas of the network connect choosers whose inquiries effect reasoning concerning the textual and interpersonal metafunctions

also. To take the textual metafunction first, it is currently assumed that the text plan constructed prior to entering the grammar has determined the overall structure of the entire text to be generated. Thus, questions about which entity is to be considered the 'theme' of the clause are simply answerable; e.g.: the chooser inquiry

> *What concept is specified as the theme of* LION-DISLIKING-EVENT (ONUS)?
>
> (cf. *ibid.*, p43)

receives the response 'JOHN' which is associated with the function THEME. Then, in the present case, system features of the systems concerned with thematisation are selected which call for realisation statements such as the following to be performed:

insert	THEME
order-at-front	THEME
conflate	THEME ACTOR

The conflate realisation operator specifies that a *single* constituent will be characterisable as fulfilling both the theme and actor functions in the clause.

The interpersonal layer constraints are imposed by considering questions concerning the line of argument of discourse development the speaker is pursuing in the text in which a clause is placed. According to Halliday, it is these kinds of issues that condition choices such as that between active and passive. Here then, it is assumed that the text plan favours constructing the clause around John rather than the lion and that the clause is not going to appear as a question. Thus: systems features are selected such that the functions SUBJECT and FINITE are inserted into the clause structure and ordered such that the subject precedes the finite element

(thereby making the clause declarative rather than interrogative), the function DIRECTCOMPLEMENT is inserted into clause structure and ordered following the finite element, and SUBJECT and DIRECTCOMPLEMENT are conflated with ACTOR and GOAL respectively (cf. *ibid.*, p36).

All that remains is for PROCESS to be conflated with FINITE (as might not happen, for example, if the finite element were instead to appear as an auxiliary of some kind) and the *clause rank* structure is more or less complete. At the (rather low) level of detail described here that structure is as follows:

```
[# <  THEME                                          ]
[     ACTOR                                          ]
[     SUBJECT  <     FINITE  <     DIRECTCOMPLEMENT  ]
[     (John)         PROCESS                         ]
[                    (dislikes)    GOAL              ]
[                                  (the lion)        ]
```

The constraints specified in the realisation statements have also been represented here: '<' denotes ordering, '#' clause boundaries, and vertical alignment conflation. This is the output of *this particular cycle* through the grammar; what remains to be done before a completed surface form results is a similar following of cycles through the grammar for the *lower* ranks of organisation such as that of the nominal group. Below I will also briefly illustrate this process in order to help show how the functional decomposition of the clause relates to actual surface forms.

In addition to mechanisms such as the above which are strictly internal to the lexicogrammar, the Hallidayan paradigm also makes certain predictions on the kinds of relationships that will be needed

between levels of organisation within the linguistic system; the previous section outlined the general framework I have adopted for the linguistic system so as to be able to investigate those relationships most easily. As Halliday makes very clear:

> '... a linguistic description is not a progressive specification of a set of structures one after the other, ideational, then interpersonal, then textual. The system does not first generate a representation of reality, then encode it as a speech act, and finally recode it as a text, as some writing in philosophical linguistics seems to imply. It embodies all of these types of meaning in simultaneous networks of options, from each of which derive structures that are mapped onto one another in the course of their lexicogrammatical realization.' (Halliday, 1978, p134)

One consequence of this framework, therefore, is that it is now necessary to consider other sources of initiative in addition to the grammatical level of form. In particular, it is necessary to examine the possibility of other levels of form and of constraints that may be imposed from above, i.e. from the stratum of context and situation, *directly* - that is, without having the choosers need to ask all of their theoretically appropriate questions each and every time a choice needs to be made. This latter possibility arises from Halliday's consideration of *interstratal* realisation and the *bidirectionality* of realisation: a mechanism should exist whereby the context can volunteer information to, or exert influence upon, the generation process of the formal stratum.

In sections 5 and 6 of the previous chapter I suggested that the notion of realisation might be very useful in coming to terms with the extremely problematic relationship between form and function. In particular, within the Hallidayan paradigm an essential realisation mechanism for communication across strata of potential is

'pre-selection'. By means of this mechanism choices taken within one stratum can constrain choices to be made within other strata - choices are thus being 'pre-selected' relative to their normal time of choice, i.e. when the system networks for that stratum would be active in their own right. If the preselection mechanism is extended upwards along the realisation chain to relate the strata of form and context, as the Hallidayan paradigm invites, then a ready-made method would exist for formalising the obvious sensitivity the linguistic system shows to its contexts of use.[16]

The essential feature of the preselection mechanism is that, instead of a complex set of conditions governing 'micro-function' formation on the syntagmatic axis, similar sets of conditions govern the selection of 'features' within other strata, i.e. the mechanism operates entirely within the paradigmatic axis. Within the Nigel framework as it stands this has only been formalised among the lexicogrammatical systems of choice, but the principle remains the same whether one is dealing with distinct cycles of actualisation through a single network - the Nigel case - or with distinct cycles in different networks - as would be entailed in effecting communication across strata. Pre-selection in Nigel is in fact used extensively to effect communication between subsequent cycles of actualisation and this has permitted Mann and Matthiessen to remove an entire class of realisational rules which previous systemic

---

16. I will argue below that this is in fact necessary in order to do justice to Halliday's claim that the "context is predictive of the text." (1978, p189) In deed, this has always been central to Firthian linguistics but there have never been the means available to formalise the position it entails; as I suggest in chapter five, perhaps now those means exist.

grammars had been forced to use, as Matthiessen (1983) argues, at considerable cost.[17]

The following statements exemplify realisation by preselection in the Nigel grammar:

Preselect ACTOR NominalGroup
Preselect SUBJECT Singular (*ibid.*, p67)

Statements of this type are associated with particular features within the system networks in the usual manner; i.e. when a feature which has a realisation statement attached to it is selected, that statement is performed as the 'realisation' of the feature. These particular examples have the following consequences: the first states that the realisation of the clause component possessing the ACTOR micro-function will proceed by means of an actualisation cycle in which the feature 'NominalGroup', and therefore all the features on the network path leading to the 'NominalGroup' feature also, have already been selected - these choices will no longer be 'free', i.e. settled by questioning the environment, they will be made automatically; similarly, the second states that the actualisation cycle associated with the realisation of the component which possesses the SUBJECT micro-function will include a path of feature selections terminating with the feature 'Singular' among its other selections. In short, the clause constituent which is the ACTOR will appear as a nominal group and the constituent which is the SUBJECT

---

17. The rules in question are function realisation statements; Matthiessen (1983, p70) suggests that earlier systemic accounts, including Hudson (1971) and Davey (1975), have been obliged to define a much enlarged set of micro-functions purely for the purpose of carrying information across cycles. With preselection no intermediary syntagmatic structure is required specifically to carry information between cycles through the grammar.

will be singular; these constituents could, of course, be one and the same constituent, or fundle, in which case that constituent would be realised as a singular nominal group. This is the formal means by which sensitivity to position in structure is achieved in Nigel and it demonstrates again the clear separation that is enforced in the Hallidayan account between the paradigmatic and syntagmatic axes of organisation.

With the preselection realisation operator introduced it is possible to complete the illustration I began above of the generation of the clause 'John dislikes the lion'. The structural result at clause rank given there was clearly some way yet from being the clause required. The functional decomposition constituting that result appeared to specify only the orderings of the top level clause constituents but the result of any one cycle through the grammar in fact contains much more information. In particular, restrictions on the units that will be appropriate to express those top level constituents are imposed in the manner suggested by the preceding discussion of preslection. Thus, in addition to simply being able to specify that a particular clause rank constituent is realised as some particular relevant lexical item (e.g. *lexify* AGENTMARKER "by"), a realisation statement located within the clause subnetwork may call for particular paths to be taken through, for example, the nominal group subnetwork.

Indeed, the very fact that the generation process was not complete when the clause rank cycle described above had been

exhausted is captured by the presence of preselection statement of the form we saw above, i.e.

preselect ACTOR NominalGroup

alongside those responsible for inserting the ACTOR function into the clause rank structure. Outstanding preselections state that the grammar should be re-entered and, in this case, that is achieved by, again, clearing the function association table, associating the function ONUS with the entity this cycle is to be responsible for expressing (here, the hub associated with ACTOR, i.e. 'JOHN'), and entering the rank system shown in figure 2. This time, however, a particular path has been picked out in advance and the chooser of the rank system need not make its inquiries of the environment in order to select a feature. The feature NominalGroup (at least) has been preselected and so the grammar can proceed to that choice point without further ado. Typically it will be the case that many features will have been preselected; these would often arise from *distinct* functions at clause rank and only come to bear on a single clause constituent via the prior conflation of those functions - therefore combining the constraints arrived at from quite distinct chains of reasoning.

The work performed by 'presentation specifications', which I mentioned above, can now be seen quite simply. The presentation specification provides a formal specification of what is to be expressed in particular formulations that is created specifically for the purposes of generation. Thus, in a sentence such as

The leader is John

in Nigel's environment both references to 'John' would be associated with a single hub, or 'concept symbol', e.g. 'JLDR', but

> 'two different presentation specifications for referring to JLDR would be created. The first might specify that the resulting expression should convey the fact that the individual holds the role of leader. The second could merely state that the resulting expression should convey the person's name.' (Mann, 1983, p4)[18]

In the present case, the presentation specification for the hub JOHN would take the latter of these options.

The situation for the GOAL-associated hub, 'LION347', is quite similar. The presentation specification needs to provide sufficient information for a form to be selected, although the grammar may impose additional constraints. Thus, the fact that, here, the word 'lion' is to be used rather than, say, a more general noun such as 'creature' or 'animal' is the responsibility of the presentation specification.[19] What the grammar remains responsible for is deciding between '*the* lion' or '*the* creature' and 'it', or between 'the lion' and 'lions' or 'those creatures' if this clause were in fact to mean that John disliked the species of lion rather than some specific animal. The latter of these decisions is made by the chooser depicted in figure 3 above which is attached to the number system of the nominal group subnetwork. This chooser illustrates that even a simple two feature network (where here, for example, the choice is between *Singular* and *Plural*) may call for more varied chooser activity. In order to arrive at the feature selection of Singular relevant for the clause at hand the environment must be able to inform the grammar,

---

18. There is, therefore, a clear similarity between 'presentation specifications' and Levy's (1979b) 'production specifications' and 'blueprints'.

via the chooser inquiries, that LION347 is both unitary and extensional. If, however, the decision were to be between the GOAL nominal groups in the two clauses:

John dislikes lions
John dislikes the creatures

where, in the second clause, 'creatures' is being used nonspecifically so as to mean the species as in the first clause, then the chooser would make that decision according to the 'collection' versus 'species' response. What John dislikes is 'unitary' and 'intensional', in the sense of its being a set or prototype, but only 'lion' picks out a species.

Finally, similar constraints work to enable the PROCESS-characterised constituent to select 'dislikes' rather than 'hates' or 'likes'+negative. Accordingly, at the clause rank there would be a preselection statement of the form

preselect PROCESS VerbalGroup

while within the verbal group subnetwork the statement

classify EVENT {Lexical features L_i}

would restrict or determine the lexical item to be that specified by the information in the relevant preselection specification. The structural output of all the cycles through the grammar might then be as shown in figure 4 below.

---

19. We shall see in chapter five below, however, some conversational work this kind of choice can support that goes beyond that currently envisaged in the Nigel framework.

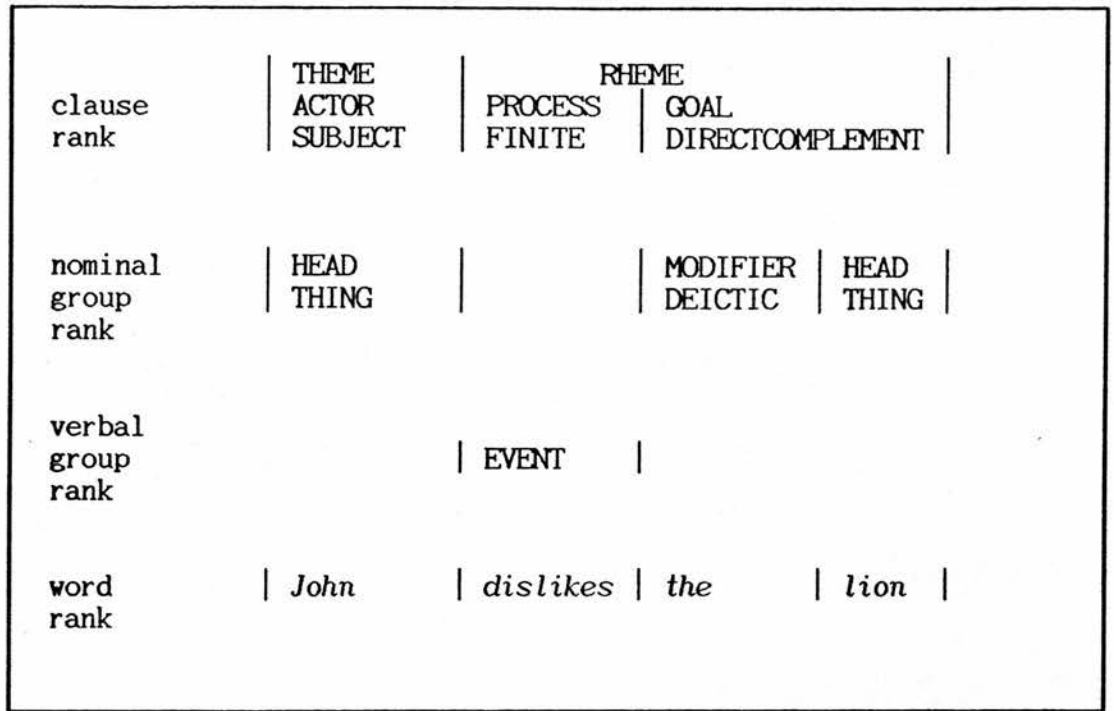


Figure 4:
Functional-structural decomposition of the clause:
John dislikes the lion

It should be stressed that the *definitions* of those functions that go to constitute the result of the generation process are *only* to be found in the appropriate set of chooser questions as related by the connectivity of the system networks, for it is only there that the *functionality* of the configurations THEME-RHEME, SUBJECT-FINITE, DEICTIC-THING, etc. are captured. This will be of particular significance in chapter four below where I will suggest functional decompositions for the level of discourse analogous to that presented here for the lexicogrammar but without the chooser specifications necessary before an adequate formalisation can be constructed.

It should also be noted that one consequence of the operation

of the preselection mechanism is to *contextualise* the resources available within subsequent cycles of actualisation so that in many cases only choices relevant to the particular element being generated are being considered. The operation of actualisation, i.e. the pursuance of the choice-making process, has been constrained so that the theoretically relevant full network is reduced to an actually relevant subnetwork. This is one means, therefore, of implementing the essential 'contextualisation of resources' by which the Hallidayan paradigm seeks to avoid the postulation of 'contextless' entities. This I described in chapter one when justifying the assimilation of the conversation analytic viewpoint within the Hallidayan paradigm. The extension of the preselection mechanism upwards to relate the strata of form and context should, then, permit the linguistic system as a whole to be far more responsive to situations than is presently the case. Furthermore, as will be argued at length in chapter five, this will be crucial for an adequate treatment of register-related phenomena and an understanding of topic.

It is necessary now, however, to consider the extension of the formal stratum to handle other levels of organisation - particularly discourse organisation - because it is precisely these resources that are going to be found of most use in my subsequent consideration of register and topic.

4. Towards a Hallidayan conversation analysis

In section 1 I mentioned that Sinclair and Coulthard, in their original specification of the exchange structure theory for discourse, decided that Halliday's move away from scale and category grammar towards a metafunctionally-layered view of the level of form was unhelpful for the study of discourse. One of the consequences of this is that exchange structure has been guided towards adopting a view of discourse which, when considered in the light of the previous chapter, remains excessively structural in nature. In direct opposition to Sinclair and Coulthard's rejection of Halliday's semantic stratum, however, Berry (1981a) suggests that this step was unnecessary and that the exchange structure level of organisation should, instead, be interpreted in terms of Halliday's metafunctions just as is the lexicogrammar. Although in the next chapter I will argue for extensive modifications to Berry's approach, I will describe it in some detail as it provides a substantial basis for the position I adopt towards formalising the insights of conversation analysis and for escaping the socially-biased and linguistically-undersupported interpretation of conversational patterning generally found within discourse analysis.

Berry takes each discoursal unit, including the exchange, to have three distinct structural decompositions, which arise from the ideational, textual, and interpersonal metafunctions of the semantic stratum in an exactly analogous way to the layering of the clause in the lexicogrammar. She then establishes the utility of the metafunctional organisation for exchange structure by showing that the patterning of discourse is not adequately captured by a single

linear structure and that the layered, multistructural approach can offer a far more natural account. Furthermore, that Berry's work suggests that it is useful to factor discourse 'function' into layers, just as clausal 'functions' are factored, again argues for a similarity between the discoursal and lexicogrammar levels rather than a distinction and, therefore, offers further support for the resolution of the structure/local management distinction proposed in the previous chapter.

Berry's framework is as follows. Berry first specifies well-formedness constraints for exchanges in terms of the three layers of functional organisation corresponding to the three perspectives of Halliday's metafunctions. Each layer consists of an ordered sequence of micro-functions, one of which, at each layer, is designated to be obligatory. The layers are represented thus:

interpersonal:	dk1 k2 <u>k1</u> k2f
ideational:	pb <u>pc</u> ps
textual:	<u>ai</u> bi aii bii ... an bn

The underlined functions are those which are obligatory; i.e. these functions must occur somewhere during the course of an exchange. The three perspectives correspond respectively to viewing the exchange as, first, a stretch of language over which knowledge is shared; second, a stretch of language concerned with the transmission of a 'possibly complex' single complete proposition; and third, a stretch of language where turns are allocated 'in advance'.

To form an actual exchange, functions from each layer must be combined to give function bundles, each of which forms a turn in the

exchange. The minimal exchange, therefore, is one in which all the obligatory functions for an exchange are combined within a single turn, e.g.

(1)

k1
pc
ai

As before, the first line is the interpersonal layer: 'k1' marks the 'primary knower', the person who already knows the information at issue during the exchange; the second line is the ideational layer: 'pc' indicates the transmission of a 'completed proposition'; and the third line is the textual layer and considers the exchange as a sequence of turns: 'ai' is the first turn of the exchange. This example corresponds to single statements complete in themselves and not necessarily predicting any response; as in Berry's

> Guide (conducting party round cathedral): Salisbury is the English cathedral with the tallest spire.

Naturally, such minimal exchanges do not occur very often and, in fact, probably only do so when there are additional constraints, typically social, being placed upon the turn-taking. In the guide example, the nonoccurrence of any follow-up can be accounted for by saying that people in sight-seeing parties being conducted by guides do not in general have rights to turns (or do not feel that they have such rights) unless the guide makes provision for them to appear. Similar pressures make this a possible exchange in teacher-pupil interactions.

The following exchange is slightly more complicated.

> 'Son: you said that Salisbury was the English cathedral with the tallest spire
> Father:yes'

(Berry, 1981a, p130)

Here, where the son is already quite confident that he knows the information at issue, the exchange receives the structural description:

(2)

'k2	k1	
pc	ps	
ai	bi'	(*ibid.*, p144)

Each line again corresponds to a layer of structure and each column is a speaker's turn; 'k2' is the 'secondary knower', the person to whom information is imparted, 'ps' indicates 'propositional support', i.e. the proposition is not still in the process of being completed - merely supported or attacked,[20] and 'bi' is the first turn of the second speaker.

An exchange characterisation such as the following, also taken from Berry, uses all the discourse resources described so far.[21]

(3)

dk1	k2	k1	k2f
pb	pc	ps	
ai	bi	aii	bii

and corresponds to exchanges such as:

Quizmaster:	in England, which cathedral has the tallest spire	[dk1,pb,ai]
Contestant:	is it Salisbury	[k2,pc,bi]
Quizmaster:	yes	[k1,ps,aii]
Contestant:	oh	[k2f,bii]

21. Subsequently the '|' will designate speaker-transition points.

20. Cf. Burton (1980). The k1-k2 distinction itself echoes Labov's (1972) distinction between 'A events' and 'B events': 'Given any two-party conversation, there exists an understanding that there are events that A knows about, but B does not; and events that B knows about but A does not; and AB-events that are known to both.' (*ibid.*, p124) This is then used to motivate simple rules of discourse such as: 'If A makes a statement about a B-event, it is heard as a request for confirmation.' (*ibid.*) Berry's formalisation can be viewed as a further formalisation of this idea.

The 'pb'-function designates a 'propositional base', i.e. a proposition skeleton which is incomplete; the 'dk1' designates a 'delayed' k1, i.e. a participant who in fact bears the responsibility of knowing chooses to withhold his/her 'stamp of authority' from the proposition at issue - this commonly occurs in restricted situations such as quizzes and school lessons; and 'k2f' designates the state of the secondary knower's knowledge *following* the exchange's transmission of its information. For ease of reference Berry's micro-functions and their definitions are listed in figure 6 at the end of this chapter.

All exchange elements, or turns, containing an obligatory function are themselves obligatory; thus in this example only the last turn, the contestant's k2f-contribution, the final state of the 'secondary knower's' knowledge, is fully optional in the sense that it could have been omitted without 'substantially' altering the exchange.

The appropriate superposition of the functions provided at each layer generates (in the Chomskyan sense) the possible range of exchanges. Thus, the oddity of exchanges such as the following is explained by it not being possible to generate the combinations of micro-functions that are required for the readings intended.

'Son: is Salisbury the English cathedral with the tallest spire
Father:yes
Son: well, is it
Father:yes
Son: that's right' (Berry, 1981a, p138)

or,[22]

'Father:Salisbury is the English cathedral with the tallest spire
Son: well, is it
Father:yes
Son: that's right' (*ibid.*)

The structural configurations at each layer entail predictions for the discourse functions of the turns that will occur; for example, the micro-function 'k1' is obligatory within its layer and so, until a turn appears which realises the 'k1' micro-function, such a turn is predicted. That is, in example (2) above, the combination of 'k2' and 'ai' predicts that 'k1' will occur at a later stage, while the combination of 'pc' and 'ai', because of the details of the ideational layer, constrains that occurrence of 'k1' to be at the next available turn, which is 'bi'. The effect of Sinclair and Coulthard's continual classification is thus achieved, but in a more functionally motivated and general manner; as Berry explains:

> 'The obligatoriness of elements can be shown to be predictable on the basis of just three obligatory functions. In every exchange, the verbal interaction must be initiated - ai; the proposition must be completed - pc; and the information in the proposition must be stamped with the authority of someone who knows - k1. If any of these do not occur in the first move they are predicted. They continue to be predicted until they do occur.' (*ibid.*, p145)

Although formal mappings between the ideational functions and those of the other layers are not provided, a systemic network capable of generating exchanges with elements specified at the interpersonal and textual layers is offered and this is set out in figure 5 below. Therefore, to take example (2) above again, its

---

22. It is, of course, to be assumed here that the intonation has also been inappropriately selected.

generation would proceed via the path: initiate exchange, this includes the functions k1 and ai in the syntagmatic representation of the exchange; and select B event, this includes k2 and bi and conflates k2 with ai and k1 with bi. The ordering of ai before bi and k2 before k1 is then established and the two turns of the exchange have been produced - the first turn 'predicting' the second. Purely as an illustration, choosers of a fairly trivial nature might be added to this network as follows; for the three systems, working from left to right:

(1) What is the concept that represents the information to be exchanged within ONUS?

Associate it with PC.

What is the hub representing the speaker who is to bear the responsibility for knowing PC?

Associate it with K1.

Does ONUS include an intention to speak?

yes, choose: *Initiate exchange.*

no, choose: *Keep quiet.*

(2) What is the hub representing the speaker who is to speak first?

Associate it with 1STSPKR.

Is K1 the same as 1STSPKR?

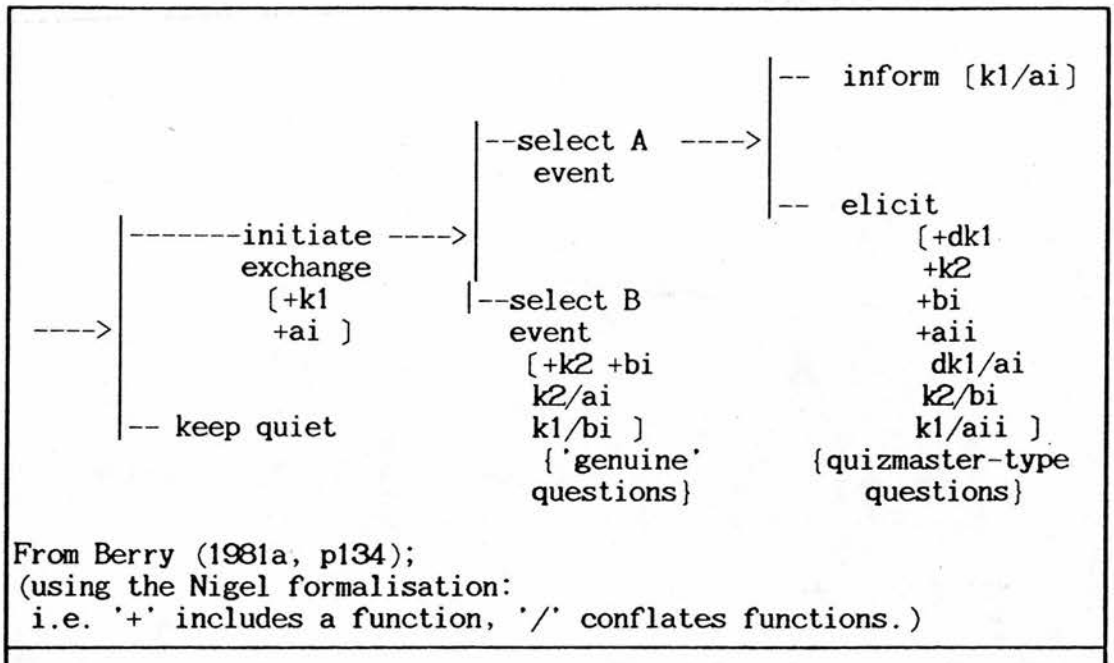
yes, choose: *Select A event.*

no, choose: *Select B event.*

(3) Does ONUS include an intention for an immediate exchange of information or one deliberately 'delayed'?

immediate, choose: *Inform.*

delayed, choose: *Elicit.*



From Berry (1981a, p134);
(using the Nigel formalisation:
i.e. '+' includes a function, '/' conflates functions.)

Figure 5:
A network for the textual and interpersonal layers of the exchange

There are also mechanisms for extending the exchange beyond the maximum of four turns so far possible. Two additional interpersonal functions are primarily responsible for this: 'qk1' and 'qk2'. The first of these can occur in place of a k2f and functions as a k2, predicting a further k1.[23] As in, for example,

Quizmaster:	in England, which cathedral has the tallest spire	[dk1,pb,ai]
Contestant:	is it Salisbury	[k2,pc,bi]
Quizmaster:	yes	[k1,ps,aii]
Contestant:	is it	[~~k2f~~(qk1):k2,bii]
Quizmaster:	yes	[k1,aiii]

The second replaces a k1 and, in effect, constitutes a 'dk1'-type function predicting a further k2 and subsequent k1:

Quizmaster:	in England, which cathedral has the tallest spire	[dk1,pb,ai]

23. The occurrence of a superceded, potentially-relevant function classification will be represented throughout this thesis either by ~~this typescript~~ or by being scored through.

Contestant:	is it Salisbury	[k2,pc,bi]
Quizmaster:	well, is it	[*k1*(qk2):dk1,aii]
	[implying the contestant is supposed to know, not ask]	
Contestant:	yes	[k2,bii]
Quizmaster:	that's right	[k1,aiii]

Berry (1981a) is not particularly explicit concerning the ideational layer details of these extended exchanges. However, Berry's (1981b) treatment suggests that the extensions should be seen as realising propositions which 'embed' the proposition at issue in the exchange in fairly straightforward ways such as, for example:

oh	i.e.	'it is news to me that *P*'
that's right	i.e.	'it is correct that *P*'
is it?	i.e.	'is it correct that *P*'
sure?	i.e.	'are you sure that *P*'
etc.		

Finally in this chapter, I should discuss the discourse-level framework as Berry has devised it in terms of the clear requirements for a systemic account established in the previous section. Berry's framework is compatible with many possible developments - not all compatible with the Hallidayan paradigm as I have characterised it here; indeed, I will suggest in the following chapter that Berry's own development must be criticised on such grounds. Furthermore, since I have argued that a treatment of discourse in terms of 'deviance' from well-formed sequences or in terms of 'grammaticality' is unhelpful, I will need to set out just what it is that the generation of particular sequences of discourse-function bundles by a systemic discoursal account is to achieve. A restatement of the basic conversation analysis position that I cited above will help in this.

As we have seen, discourse participants are considered to act

'in terms of accountable normative expectations bearing on the nature and design of their turns at talk.' (Heritage, forthcoming.a, p6) The systemic discoursal stratum is, then, a statement of the *principles of choice out of which specific normative expectations arise.* These principles provide a basis for the accountability of the actions they sanction. It is precisely because such actions conform with behaviour made comprehensible by the principles of choice that they *are* accountable. Furthermore, it is the eventual aim of a Hallidayan discourse/conversation analysis of the type I am proposing that it should now be possible for the consequences of particular discourse-functional choices in context to be tied formally to the 'surface-structural' details of their utterances. This is to be achieved by virtue of the highly detailed lexicogrammatical systemic grammars already in existence, particularly those, such as 'Nigel', where the computational paradigm has permitted maximum breadth and detail of coverage within a single system which remains, nevertheless, a comprehensible and useful tool for further theory construction.

More generally, the empirical activity of ethnomethodology

> '.. dissolves the apparently solid phenomena to the point where their processual foundations become visible. It discloses 'members' work in the world' as those phenomena's only foundation.' (Bauman, 1978, p190)

The discoursal stratum of potential can be seen as a characterisation of that aspect of 'member's work in the world' concerned with the achievement of accountably coherent interaction. Furthermore, it is intended to do so in a way which adequately reflects the 'contingency' of that achievement; the systemic discoursal stratum is

a means of making what occurs in discourse comprehensible by contrasting it with whatever could have occurred but did not, thereby displaying that choice's appropriateness. As Schegloff writes:

> 'Good analysis retains a sense of the actual as an achievement from among possibilities; it retains a lively sense of the contingency of real things. It is worth an alert, therefore, that too easy a notion of 'discourse' can loose us that.' (1982, p89)

And, even though it leads to substantial modifications in both the details and the theoretical grounding of Berry's framework, this will be adhered to rigidly in the analyses to come in chapters three, four, and five below.

To conclude I will summarise the position I have developed so far. The previous chapter argued that a synthesis of the tenets of conversation analysis and those of Hallidayan linguistics constitutes a potentially beneficial framework for approaching discourse and its relations to linguistic form and to context. This is possible because the Hallidayan framework, when developed appropriately, exhibits an almost identical metatheoretical orientation to that of conversation analysis. Furthermore, and as will become clearer in chapter four, Berry's development of a formalisation for discourse-level resources begins to make possible a framework within which full justice can be done to the subtlety and scope of conversation analytic accounts. A formalisation of this kind, of discourse in particular and of the linguistic system in general, is to be pursued, therefore, for the following three principal reasons: first, it allows a *concise* statement of the claims that are being made - thus helping both theory construction and falsification; second, the presuppositions of

the paradigm suggest possible directions in which appropriate generalisations may be sought; and third, it begins to provide a framework which can offer a much wider coverage of linguistic phenomena than has been achieved hitherto and which can make explicit precisely those linkages between discourse and other levels of organisation, including those of traditional concern to linguistics - the sentence and the clause, upon which many current theories founder.

This completes the initial theoretical development of the linguistic framework and its further development can now be undertaken with respect to one particular corpus of natural dialogues.

layer	*abbreviation*	*definition*
ideational	pb	propositional base : an incomplete skeleton for a proposition which is awaiting completion.
	pc	completed proposition
	ps	propositional support : the acceptance or rejection of a proposition which has been completed
interpersonal	k2	secondary knower's role : the participant being informed by the exchange
	k1	primary knower's role : the participant who is in the position of bearing responsibility for the proposition the exchange is transmitting
	dk1	delayed k1 : where the primary knower chooses for some reason not to give the stamp of his/her authority as knower at that turn
	k2f	secondary knower's final knowledge state: the utterance which expresses thesecondary knower's state either as having been successfully informed or not by the exchange
	qk1	question primary knower's information
	qk2	question secondary knower's information
textual	ai, aii, ...	the turns of the first speaker
	bi, bii, ...	the turns of the second speaker

Figure 6:
The discourse micro-functions of Berry's (1981a) framework

Chapter Three

The initial development of the discourse level

In the remainder of this thesis, I undertake the primary objective of beginning to show how the properties of naturally-occurring conversation might be described and explained by a linguistic theory fully compatible with the requirements established in chapters one and two. At present, the framework that has been devised merely encapsulates in a semi-explicit fashion the assumptions I am willing to accept concerning the organisation and function of the linguistic system. Now the problem turns towards examining how that framework may be further refined and articulated, particularly in the realm of discourse, so as to begin to approach an adequate linguistic theoretical position.

The direction taken will be one of continuous refinement in the face of the requirements of data analysis; that is, I will be examining the kinds of extensions that the analysis of several problematic discourse- and context-related phenomena suggests for the discourse framework as it has been introduced.

Before describing the data I have selected for analysis, however, I need briefly to justify my decision to use what some would consider 'unnatural' discourse. Conversation analysts in particular make much of their refusal to accept 'impoverished' data and, as a consequence, generally will only make use of recordings of actual

spontaneous conversations, unconstrained apart from the natural exigencies of the situation. I will not be using such data and so, for those who feel this to be a serious limitation, a few words of explanation will be appropriate.

1. Arguments for a restricted discourse domain

So far in this thesis I have emphasised that perhaps the principal function of language is to maintain the shared context in which the language behaviour occurs. It is that context which is responsible for the meaningfulness of the activities it encompasses - with a different context 'similar' activities might receive quite distinct interpretations. In order to examine this process, then, a suitable area of data should admit of a description in 'contextual' terms that fixes the meanings of the occurring language more or less independently of the specific forms that the language takes. Unless what is being explicitly shared by the discourse participants in their interaction can be isolated in some way, it will remain virtually impossible to specify just why specific linguistic resources are being deployed as they are. This, in fact, is precisely the benefit a constrained discourse domain confers. The language observed in that domain can be seen functioning at *all* levels of analysis with sufficient clarity to enable the explanation of the deployment of linguistic resources in terms of the consequences of that deployment on contextual development. The risk - ever present in discourse analysis - that the interpretations made by the analyst bear little resemblance to, or worse, seriously misrepresent the

subject matter under analysis is therefore much reduced by the existence of an externally verifiable interpretation of the context.

Therefore, when one is seeking the beginnings of a framework that is capable of capturing fine details of language organisation at many levels of analysis, it becomes essential to narrow the focus of attention sufficiently for formalisation to commence. Furthermore, if this can be done without seriously compromising the aspects of linguistic organisation with which one is concerned at a particular point in the analysis then the restriction is well worthwhile in the increased hold on the data that it affords. In short, a restriction in viewpoint can be seen to include the following beneficial consequences:

First, the restriction allows a greater depth of motivated analysis. If what is being shared and achieved in the discourse can be captured, then the functioning of the accompanying language can be seen with sufficient clarity to permit the explanation of its deployment of linguistic resources in terms of the achievement it represents.

Second, the study of genres under various constraints (e.g. role-oriented, task-oriented, sound-only, etc.) can still reveal interesting general mechanisms. For example, in the analysis below I suggest that the restriction of resources for topic organisation can be accounted for as an instance of the functioning of a general mechanism within the linguistic system, i.e.: the negotiated 'pre-selection' of resources for 'fine-tuning' the linguistic system as a whole for use in particular concrete situations. The study of

genres under *different* constraints can then be used to round out the analysis of each particular genre by enabling a more complete account of those mechanisms operative generally to be constructed.

Third, the description of genre-specific forms of linguistic patterning is itself a useful and necessary study. For example, the fact, which we shall see below, that 'role'-constrained discourse produces certain types of organisation is a phenomenon concerning the relation between role-structure and discourse forms that any complete theory will need to address.

And finally, if it is accepted, as I propose, that the linguistic activity undertaken to lesser and greater degrees *defines* the nature of the social activity as it is understood by its participants, then the study of specific genres becomes an essential part of understanding the nature of their situations of use. The progression from less complex to more natural situations then seems an appropriate research methodology.

As has been shown in many computational environments the restriction to a specific problem domain has often permitted a level of detailed description impossible to achieve in less bounded situations. It appears that this provides a useful lesson in the formalisation of all levels of human ability, especially in these early stages of research where a general understanding of what is involved still lies in the future, and so I believe a restriction to specifically elicited discourse to be more than justified.

2. Description of the data: the maze game

The specific discourse domain that I have selected for analysis consists of protocols gathered from a co-operative game situation played between two participants. This game has been developed by Dr. Simon Garrod of the Psychology Department at the University of Glasgow and is currently being used in various research projects within that department.[1] The game, which is called the 'maze game', is structured such that its players need to communicate to each other specific positions within a maze-like pattern displayed on a computer screen; those points include, for example, the positions of specific entities significant to the game, such as tokens representing themselves, goals which they have to reach, obstacles, and means of removing those obstacles. In addition, the players also need to communicate their co-ordinated plans of action for the playing of the game. Since the game in itself sets quite a problem-solving challenge, the players quickly become very involved and produce spontaneous, informal, mixed-initiative dialogues. Therefore, although the situation in which the players are interacting is 'unnatural' in that it has been created specifically to elicit discourse under controlled conditions, the involvement of the players in the game nevertheless gives rise to a fairly free use of language. Furthermore, as the players are out of sight of each other, their communication is restricted to purely verbal communication and this removes another level of possible complexity - a level which, given the current state of the art, the discourse analyst is well justified in avoiding.[2]

---

2. Especially considering that it is now largely accepted that the limiting of conversation to sound, thereby removing the visual possibilities of gesture, gaze, etc., does not significantly alter

The suitability of this kind of restricted domain is also aided by the fact that the possibilities for action within the game are completely constrained, thus permitting their formalisation, while the *choices* that the players come to make are relatively free and, within the general possibilities available, subject to negotiation. And so, even though it is usually clear *what* players must attempt to achieve, their particular methods for going about this are not predetermined and provide a rich source of conversational activity.

The game itself is played as follows. The two players involved are placed in separate compartments each with a computer visual display unit. Upon the screens of the display units is shown a rectangular grid which has been turned into a maze by its being more or less incomplete; i.e.: an array of points is converted into a maze by randomly connecting each point to some, but not necessarily all, of its immediate neighbours. Both players share the same maze configuration. A player is said to be situated at the points in the grid, while game moves consist of a player changing his/her current position to a connected adjacent point. The object of the game is for the players to bring about a situation in which they *both* occupy their respective 'goals' - which are positions in the grid selected

---

1. In fact, the strictly non-psychological approach I am taking to the analysis of the data contrasts in interesting ways with the psychological accounts that are currently under development; the details of this, however, will not be particularly relevant here.

---

the organisation of interaction beyond minor, quite predictable effects such as increased orientation to checking and re-checking the availability of co-speakers; see, e.g. Butterworth, Hine, and Brady (1977), and Beattie (1981).

at random for each player - at the *same* time. In order to get to that situation, the players move alternately, either by specifying a direction in which to go - the choices being up, down, left, and right relative to the maze - or by passing - which scores a penalty point against them.

Now, although both players are in the same maze, they have access to *different* information. Each player can see the basic maze configuration, his/her own position, and the position of his/her 'goal' upon his/her own screen. What a player cannot see, however, is the position of the other player or that of the other player's goal. Furthermore, communication is made an intrinsic part of the game by the introduction of 'gates' and 'switch points'. For each player, a random subset of the paths available are rendered unusable by being blocked by 'gates' across those paths. Each player can only see his/her own gates. Also, for each player, a random subset of the positions in the maze are designated to be 'switch points', the function of which is to open all the paths in a player's maze which were blocked by closed gates and simultaneously to close all those which were previously open. Each player can only see his/her own switch points, but they are *only* activated when the player *who cannot see them* occupies the relevant position in the maze. Therefore, the player for whom a switch point has an effect cannot him/herself activate it. Instead, s/he must have the other player, who cannot see that switch point, occupy its position in the maze. By this means the game is made essentially co-operative and communicative. That communication is made possible via headphones and microphones and is

recorded on audio-tape to give maze game protocols. These protocols are also accompanied by a hardcopy record, produced by the computer, of the state of the maze as seen by each of the players prior to each move that is made, thereby providing a verifiable statement of the actual situation the players are addressing at each stage of the game.

As an example, figure 1 below depicts the state of affairs that might hold sometime during the playing of a game. The left-hand maze configuration shows what may be seen by player A and the right-hand configuration shows the view of player B. The maze itself is unchanged in the two perspectives, but the positioning of items within the maze is specific to each player. A star ('*') represents the goal of the player who can see it, a cross ('X') the position of the player who can see it, an 'S' denotes a switch point, and a barrier across a path ('|' or '-') denotes a gate.

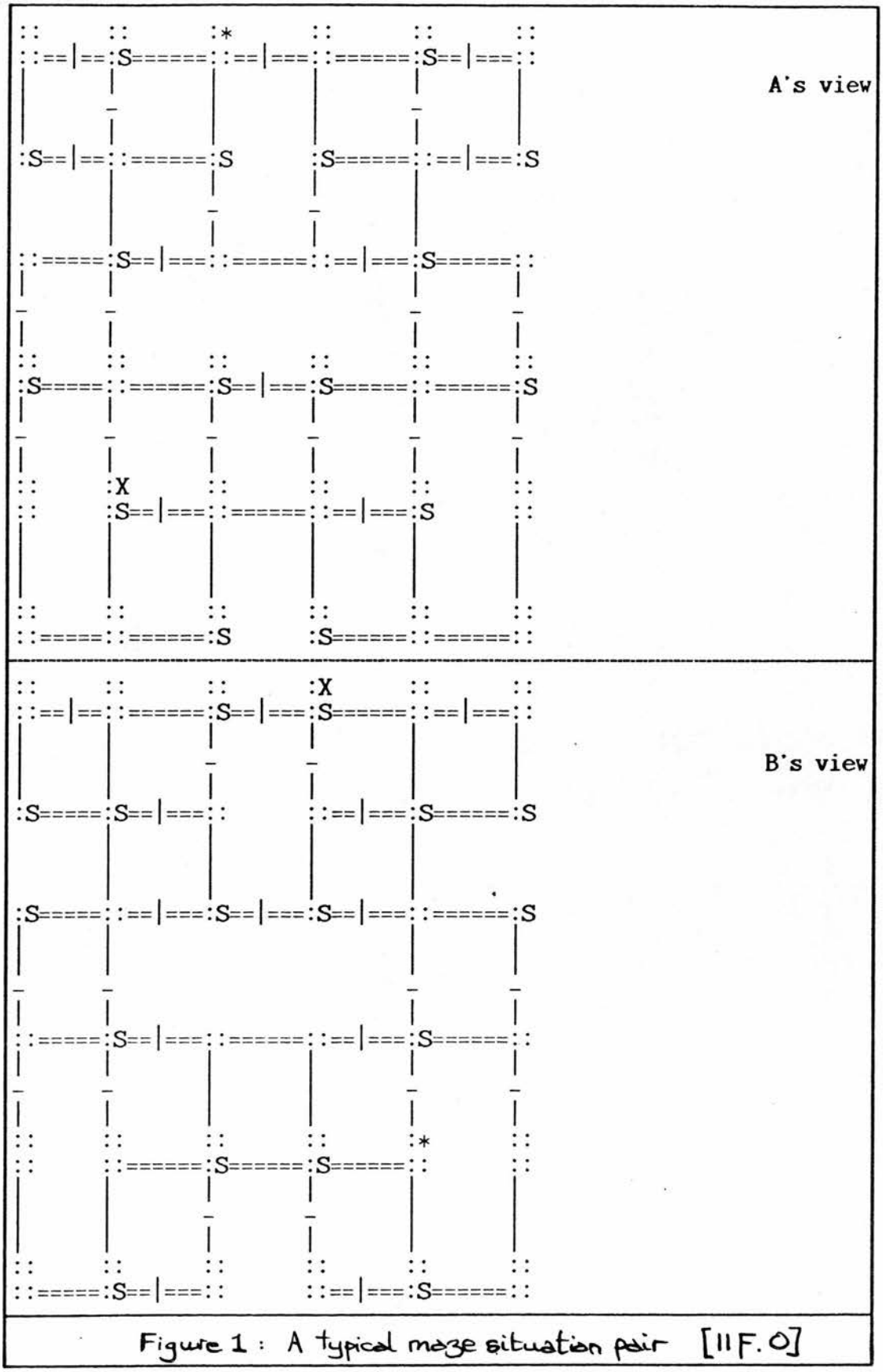
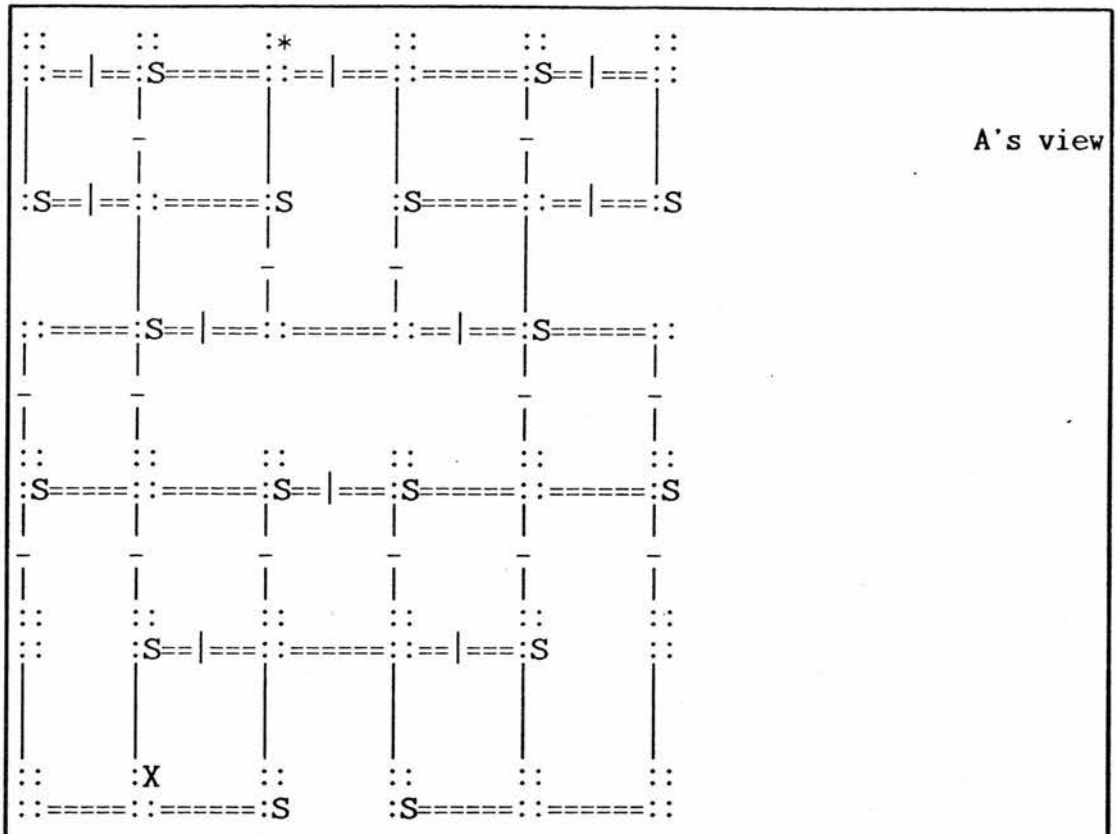


Figure 1 : A typical maze situation pair [11F.0]

In the particular situation of figure 1 then, player A, who is situated towards the lower left-hand corner of the maze, can only move down, moves to the right and up being blocked, while player B, who is on the top row, can only move to the right, moves to the left and down being blocked. However, if it were A's turn to move and A decided not to suffer a penalty point and instead move down away from his/her goal, then B's situation would be altered. As can be seen from the right-hand maze, by moving down A moves into one of B's switch points and so changes the state of all B's gates. The situation that holds for both players after A makes this move is shown in figure 2.

Here, again, A can only see the left-hand information and B the right and so, unless B *explicitly* informs A of the consequences of A's move, A has no way of knowing that his/her move has completely altered B's possibilities for moving. B can now move left or down, but not right. Furthermore, if B moves down s/he would land upon a switch point of A (as can be seen from the left-hand maze), change the state of A's barriers, and so would completely block *all* of A's possible moves. This would require the taking of penalty points until B could again find a switch point belonging to A. It is, then, to avoid situations such as this and to achieve most readily the reaching of their respective goals that necessitates communication between the players.



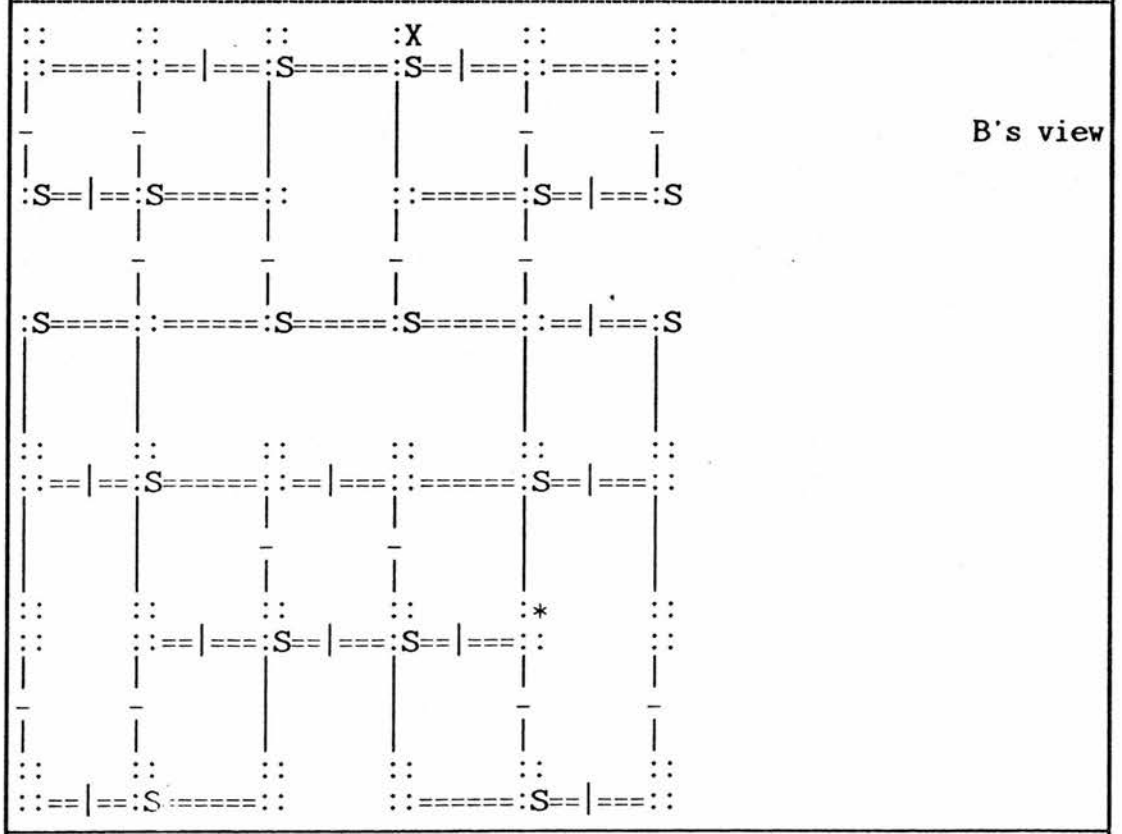


Figure 2 : The maze situations one move later [11F.1]

3. Description of the protocols

Five main protocols were used as the central data addressed in this thesis, providing over an hour of conversation in total. Of these, one (P1, approximately 15 minutes in length) I needed to transcribe from scratch from the audio-tape. With the other four, written unanalysed transcripts of the tapes had already been made at Glasgow, although it was nevertheless necessary to retranscribe these from the original tapes in order to ensure consistency across the five main protocols with respect to the particular linguistic details I wished to be able to address and to reduce further any remaining differences between transcript and tape. In addition to the five main protocols, several other game records from the Glasgow collection were looked at in considerably less detail, both in audio and transcript form, in order to ensure the typicality of the main protocols selected. Finally, a collection made by Simon Garrod and Anthony Anderson at Glasgow of the expressions used by players to refer to positions in the maze in a futher ten or so games was used to supplement those of the main protocols in order to provide additional justification for the generality of certain of the conclusions reached in chapter five below.

The actual form of the transcripts of the maze game protocols as they appear in this thesis will be as follows. Individual discourse contributions will be represented at the level of the words of which they are comprised, reflecting as accurately as possible the

morphological form and state of completeness in which the words appeared. Standard spellings will be used throughout; the conversation analysis method of transcription in which a quasi-phonetic spelling representation is used will not be adopted.[3] Also represented will be whether successive utterances are 'latched', i.e. one following immediately without any break on the heels of the other; whether an utterance is interrupted; whether overlapping speech occurs; and whether and where hesitations or immediate self-corrections occur. This is best clarified by means of some examples.

Thus, in the utterance:[4]

B: Uhu, [A MOVES]· (3s)
So you're on the l- the- the, upper,
the- the uppermost row, right?

B first responds with the minimal agreement or 'carry-on' marker 'uhhuh' (other varieties of this type being 'mmhmm', 'yeah', 'OK', etc.) and then pauses. Short pauses will be represented by commas; longer pauses may have their length also specified as is the case here.

Other information that may appear in parentheses will also relate to 'nonverbal' features of the language that are apparent to the players; as in, e.g.:

A: My earphones fell off er,
B: (laughs) In the excitement
A: (laughs) er, I'm going to move down now,

3. For apt criticisms of several aspects of the conversation analytic form of transcription see: Owen (1983, pp5-6).

4. All the examples given in this section are from the protocol '44A'.

or

B: That's me moved,
(coughs) Excuse me, (2s)

External, or contextual, information will be placed in square brackets; by and large the only such information relevant in this analysis will be the actual game moves that the players make.

Immediate self-corrections which result in a word being broken off in the middle will be represented by hyphens; in

you're on the l- the- the, upper

then, player B probably begins to say 'lower', realises this is wrong, immediately stops and produces a definite article, twice, before hesitating and finding the apparently appropriate 'upper'. Hyphens will be used to indicate incompletion of forms generally, for whatever reason they may occur.

In addition to these kinds of information, intonation will be represented by the rudimentary scheme of including a question-mark for rising intonation and a full-stop for nonrising intonation; the default will be nonrising. This is in no way intended to suggest this is adequate; indeed, the problem is heightened considerably by the extremely poor understanding we have of intonational phonology generally and the fact that many of those taking part in the maze game had Glaswegian or 'western' Scottish accents. The designations of question or rising intonation I adopt here should be seen, then, as suggesting an impression of an utterance's perceived role in the discourse rather than capturing intonational phonetic details. For

some of the intonational patterns distinctive of the kinds of accents I have been dealing with here, see: Currie (1979), Brown, Currie, and Kenworthy (1980).

Emphasis, whether due to explicit contrast, excitement, or whatever, will also be represented. As in the second of the following utterances, this will be indicated by italics:

A: And you want me to do that?
B: well, {yes, yes, *but*,}
A: {you don't? { (laughs)

The braces across speaker turns signify the relative synchronisation of those turns; that is, in this case, B's "yes, yes" and A's "you don't?" both begin at the same time and therefore overlap. Also, following B's emphasised "*but*", A laughs. Occasionally, when the use of braces is not convenient, simultaneity will be indicated by means of a subscripted slash '$/_i$'; this will signify that a turn labelled 'i' that occurs subsequently in the transcript begins in overlap at that point. The last two turns of the previous example could therefore be rewritten thus:

B: well, $/_1$ yes, yes, *but*, $/_2$
A_1: you don't?
A_2: (laughs)

Finally, as in some of the conversation analysis examples used previously, the equals-sign will specify latched turns, when one turn follows another immediately without even the normal inter-turn interval elapsing. These simple transcript conventions are listed in figure 3.

,	pause
, (Ns)	pause of N seconds
.	nonrising intonation
?	rising intonation
italics	emphasis
( )	nonverbal information
[]	contextual information
-	incompletion
=	latched turns
{	synchronisation across turns
/i	turn labelled 'i' begins at this point
er, ehm, etc.	'filled' pauses
...	signifies that there is talk that is being omitted from the transcript at this point

Figure 3: Transcript conventions

One further consideration is also appropriate, however, before analysis proper can begin. Since a single maze game can last over thirty minutes, it would be useful to be able to address some substantially shorter stretch of behaviour as a unit for analysis. The next section identifies such a unit and explains its motivation.

4. Move segments

Within the playing of the maze game there are several recurrent situation-types that are necessary for any adequate understanding of the game.[5] These types may be realised in various particular game specific ways but can be seen to occur in almost all game protocols. Three types are immediately distinguishable.

First, there is the beginning of the game: before commencing the game proper the general situation in which the players find themselves has to be established. It is here that greetings are found, comments about the communication channel are most commonly placed, and the first establishment of the players' respective positions is undertaken. For example,

A: But we can't see each other this time, Mick.
OK. Start.
B: Aye. Where are you now then?
[11D.0]

B: I'm getting something now.
A: Yeah he's getting something.
B: Right. Now, wait a minute.
A: Right. We can't see each other.
B: Can you see the goals either, no?
A: I can see er,
B: Right, where are you at the moment?
[11F.0]

A: Hello.
B: Hi.
A: Where are you? (laugh)
[44A.0]

This segment will be called the 'initialisation' segment. It is typically concluded by the successful identification of the players' positions, after which the players turn their attention to their first move. This boundary is often quite abrupt, as the following shows:

A: Right, got you, got you. [i.e. positions established]
B: Right, so }
A: { I'm off. Right, hell.
B: Where are you moving?
[11F.0/1]

The second recurrent situation-type is that which is found at

---

5. Interestingly, there are protocols in which the players had not adequately understood the game. It is possible to demonstrate in these that the required situation-types are not constructed.

the conclusion of the game. This is where both players have succeeded in moving into their respective goals so as to occupy them simultaneously. The time the game has lasted and the penalty score are typically cited by one or other of the players at this stage, often accompanied by an expression of relief. The segment of the protocol corresponding to this situation will be termed the 'final' segment.

Third and lastly, there are intermediate segments derivable from the move structure of the game. At each moment in the game from the end of the initialisation segment to the end of the final segment the players are 'oriented towards', or considering, the next move. The playing of the game which begins with the consideration of a subsequent move and ends with the next move having been made will be called a 'move segment'. The final segment is therefore a special case of the more general class of move segments.

Considered in this way, then, the behaviour involved in playing a maze game exhibits the following 'structure':

I(initialisation)M(ove)M ... M F(inal)

The move segment, as the most typical situation of the maze game, will be adopted here as the primary unit of analysis; 137 of such move segments were provided by the five main protocols. Protocol segments cited in the text will therefore be located in terms of the protocol from which they come (the protocol identifications used here, with the exception of protocol 'P1', are those that have been allocated at Glasgow), and the *move* segment from which the discourse

segment is taken; for example, the next example below, '44A.4', comes from the fourth move segment of protocol 44A.[6]

An approximate indication of the boundaries of move segments is given by the actual taking of moves by the players of the game. The correspondence is not exact because it is usually the case that after a player moves s/he informs the other player, who cannot see the effect of the move, that the move has been successfully completed. Thus, at the end of move segments before the players continue with the consideration of their next move, one finds utterances such as,

B: So I'll just incur a penalty point, alright?
A: Right, [B moves] (3s)
B: Right, that's me incurred my penalty.

[44A.4]

Further, if the move is into a switch-point there will be a confirmation that the desired switching has in fact been achieved or an exclamation of surprise or annoyance that there has been an unexpected switching. For example,

A: ... right you move up now
B: [B moves] Right, is that you changed?
A: Give's a second. Aye ... .

[11D.24]

or

B: Right. Can you move up now?
A: Yes (2s) Going up [A moves] (1s)
B: Right, you're changing my barriers, OK?

[44A.21]

The structuring of a game into initialisation, move, and final segments represents the least level of detail that will be considered for the moment in the analysis of the maze game. In particular, move

---

6. This is sometimes given in the expanded form AALOG44A at Glasgow.

segments last on average less than a minute and so can be considered in depth.

In addition, these segments provide a convenient basis for the formulation of functional roles for the language of the maze game to bear.[7] These roles may be defined in terms of the consequences they have for the accompanying context and offer a means of defining when otherwise quite varied linguistic realisations are to be considered functionally equivalent or related. This permits a specification of the formal, i.e. lexicogrammatical, alternatives that are available for realising any given function of the maze game situation. The question as to what precisely conditions selection among those alternatives can then be raised in detail. The formal alternatives of primary concern here, of course, are those that traditionally have been approached in terms of discourse, i.e. those that can be considered to lie upon the textual metafunction and interclausal 'dimensions' of linguistic organisation.

An initial functional decomposition of the move segment provides the following organisation of functional roles for language to fulfill:

(F1)	[(Ascertain possibilities)]	
(F2)	[(Ascertain requirements)]	
(F3)	[Propose move(s)]	
(F4)	[Consider/Evaluate effects]	repeated until
(F5)	[Decision]	'plan' formed
(F6)	(Report move(s) accepted)	
(F7)	State current move being made	
(F8)	Check position/effect of current move	

7. This is very similar to Mitchell's (1957) analysis of various categories of transactions involving buying and selling, which was first mentioned in chapter two above, and his break down of these categories into stages.

Now, at this stage, this is purely a response to the requirements of the game: it cannot be assumed that this organisation bears any relationship with any large-scale *linguistic* organisation a segment might possess; that organisation remains to be uncovered. Below, in chapter seven, I will pay attention to one specific functional role that recurs frequently in the maze game protocols as a subcomponent of many of the above more general roles. This role supports utterances such as

I'm in three one [44A.0]
I'm at the very bottom of that row you're at [11D.12]

and may be characterised as:

identify a position
- either in absolute terms (e.g. co-ordinates)
  or relative to a significant object

This narrowing of attention will permit some quite interesting general phenomena of discourse and contextual interaction to be approached.

It is now necessary to examine the suitability for the analysis of this kind of data of the discourse framework of Berry (1981a) introduced in the previous chapter. The final sections of this chapter undertake this examination and find the original framework wanting in several respects. To prepare the framework for the analysis of the next chapter, therefore, I will need to make several significant changes.

5. General problems with Berry's account

In this section I will briefly discuss a very general disagreement I have with Berry's suggested development of the exchange structure account; this will permit the following sections to proceed to extend that account in two particular directions that are immediately suggested by a consideration of the language of the maze game protocols.

My general disagreement rests upon a tendency of Berry's to attempt to 'rescue' systemic linguistics from the imprecision of Halliday's more recent work; her position on this point is well stated in Berry (1980, 1982). Berry argues that the exchange should be accepted as a well-motivated linguistic unit because it seems to be possible to isolate several 'patternings' operative over a stretch of linguistic behaviour more or less co-extensive with the exchange as Sinclair and Coulthard (1975) originally envisaged it. Berry in fact describes five sets of rules which specify well-formedness constraints on these patterns and these may be interpreted as considering the exchange from various perspectives; Berry (1981b) describes two 'formal' sets of rules, which will not be of central importance here, while Berry (1981a) describes the three 'functional' sets of rules that we saw in the previous chapter; all of these rules relate to the exchange as an independent unit. Berry summarises these sets of rules thus:

> 'i) Rules relating to the co-occurrence and sequencing restrictions on classes of sentences such as question and statement;
> ii) Rules mapping the appropriate degrees of ellipticity on to the sequences of questions and statements;
> iii) Rules relating to the propositional development;
> iv) Rules relating to turn-taking;
> v) Rules relating to the relative-knowledge of the participants.' (1981b, p38)

The first two sets are those which relate to form; the remaining three relate to function.

Now, as a response to the admittedly poor record systemic linguistics, particularly in its Hallidayan variants, has had in proposing *explicit* treatments of data, Berry is prepared to admit the theoretical mechanisms of early transformational-type grammars into her account in order to achieve the required level of formality. However, this unfortunate Chomskyan slant to the formulation of linguistic rules culminates in the following statement:

> "Rules such as those that I have been discussing in this paper define only the most regular exchanges. Naturally occurring texts contain a large number of instances of deliberate or accidental deviance. This usually means that there will be a clash between the various sets of criteria provided by the rules: stretches of discourse will be found which obey some of the rules but not others. ... It would seem sensible to single out one of the sets of rules and make this the crucial defining set for the exchange." (1981b, p38/9)

And, of course, given the typical orientation of discourse analysis described in the introduction, that singled out set is none other than those of the ideational layer concerned with the propositional development. A position such as this, therefore, well justifies ethnomethodological criticisms of premature formalisation. Furthermore, it seems to me to violate the spirit of the Hallidayan paradigm. Considering the lack of fine detail predicted by Berry's proposed constraints, such a formalisation must be seen as doubly premature and is only justifiable when it is has *already* been accepted that the Hallidayan framework is inadequate for the task at hand.

Berry, for example, distinguishes between the responses in the following two exchanges:

A: Would you like to come round for coffee tonight
B: Who wouldn't

A: Would you like to come round for coffee tonight
B: Yes Thanks

saying that the latter is completely well-formed while the former is 'not straightforwardly well formed. [It is] deviant. Though not so deviant as to be impossible discourse.' (1981b, p31) Deviance, distinguished from ill-formedness, is then used to justify the bringing to bear of Gricean implicatures to get over more in the response than a simple yes/no. But, in these very early stages in the statement of discourse organisation, one *cannot* be concerned with classifying instances of language use as 'deviant' in some sense - if an occurrence does not fit one's rules then it is the rules that must go. Below I will be seeking a more general statement of the organisation of exchanges true to the Hallidayan paradigm which renders *what occurs* intelligible, not in terms of 'deviance', but in terms of the consequences of specific occurrences for the development of the situation as a whole.

The following example protocol segment will begin to show the inadequacy of Berry's proposed account in detail. It will also allow me to demonstrate how the framework may be usefully extended by means of a thorough re-orientation towards Hallidayan principles rather than by the adoption of a more traditional structuralist position.

The move segment 44A.20, given below, concerns player B finding

out what s/he must do in order to avoid switching player A. Now, in Sinclair and Coulthard's (1975) teacher-pupil interactions and Berry's (1981b) quizmaster-contestant interactions the roles of the participants are pregiven and hierarchically related. That is, there is a 'figure in authority', the teacher or quizmaster, and as a consequence the turn-taking is tightly constrained and embodies a 'speak when spoken to' principle for the participant not in authority. However, in the maze game situation there is, typically, no obvious hierarchically-structured role relationship between the players. Furthermore, as we shall see below and particularly in chapter seven, the relationships that are present are often arrived at by negotiation and change according to the maze game task being undertaken. Thus, in the maze game protocols generally and as can be seen in segment 44A.20, the strict turn-taking schema of a role-conditioned genre is broken. There are many and frequent interruptions and a player often proposes responses for the other player to accept or reject. Under Berry's account this immediately leads to a multitude of 'embedded' exchanges and a mass of structural detail that is of little value in understanding why the language is occurring as it is.

1	B: Right, where are your S boxes from where I am
2	A: You're at 4 4? S- (1s) Yes?
3	B: No, I'm,
4	A: 4 5
5	B: 4 5 (1s)
6	A: Well (1s) tha-
7	B: I'm on an S box {of yours?
8	A: {you are, you are, uhu,
9	B: so, if I incur a penalty point I may, change your
10	barriers...

Protocol segment: 44A.20

This 'deviance' from the simplest expected structure hints at a quite general problem with the exchange structure theory as Berry has developed it. As I mentioned above, following Coulthard and Brazil (1981, p101) and discourse analytic approaches generally, although Berry considers the exchange to be the unit concerned with 'negotiating the transmission of information', in her formulation, this negotiation aspect is not particularly stressed. In the quiz situation it is possible to isolate the questions of immediate concern that fix the 'information to be transmitted' in a way quite inappropriate for natural conversation. 'Topics' are not in general set up prior to the exchange - they are negotiated by the participants as the exchange proceeds. Furthermore, since exchanges are only defined with respect to some proposition, as soon as that proposition is itself undergoing development during an exchange (which is precisely the case which is explicitly ruled out by the quiz situation), the isolation of individual exchanges begins to be problematic. But then, if deviations are to occur so readily, what predictive power can the framework retain?

The same problem is also apparent between 'independent' exchanges. In the quiz situation, as perhaps nowhere else, the discourse can be analysed as a sequence of exchanges with minimal interactions between those exchanges. That is, a question is asked and then answered, then the next is asked and answered, and so on; this activity constitutes the quiz. To accept such data, not just as another genre to be fitted into some more general framework, but as a genre which gives a useful idealised norm, again betrays the Chomskyan, competence slant given to the theory. Instead of studying lists of sentences divorced from context to ascertain what constitutes 'grammaticality', Berry studies exchanges similarly isolated. The 'decontextualisation' thus implied is contrary both to the Hallidayan paradigm at large and to the Hallidayan concept of linguistic potential in particular.

This situation is made worse by the specifically pedagogic genre implied by the kinds of questions considered. These are not, by and large, questions seeking information at all but, instead, are questions for which the asker already knows the answer. Thus, not only are the boundaries of 'exchanges' particularly prominent in the quiz situation but the internal structure of exchanges are tied specifically to this type of genre: indeed, it could well be argued that, at the level of form at least, the regularities observed in 'exchanges' are purely a product of the restricted situation. To begin building such regularities into the structural *necessities* of the exchange must surely be a questionable practice.

The following 'exchange' demonstrates well some of the problems inherent in attempting to treat the exchange primarily as the transmission of information. This view entails that something needs to be asserted or that, at least, there is a nonquestioning sentence or move at the heart of the exchange. Although this may seem a relatively uncontentious claim, it is by no means as well-formulated or general as it needs to be. In the exchange

A: can you change me?
B: I don't know. Can I?
A: That's right er ...

[11F.1]

for example, what is it that is being asserted, that B does not know whether s/he can change A?

A response such as this does not at all reflect adequately what is happening. In the 'transmitting of information' approach exchanges are being construed as one particular kind of adjacency pair, the question-answer, and this is being proposed as the general form of discourse organisation that involves constrained turn-taking. What information, then, do summons-response, invitation-reply, and greeting-greeting adjacency pairs transmit? It should be noted that it is always possible to *create* appropriate information as an answer to this question; for example, 'a willingness to take part in conversation is transmitted'. But this is placing an additional interpretation on what is occurring which is imported from the question-answer paradigm rather than arising out of the analysis of these types of adjacency pairs themselves. Thus, I would claim that what the exchange from 11F.1 above *achieves* is a reassignment of the knowledge roles A has imposed on the participants. There is simply no

need to posit some 'information transmitted' of the form 'B does not know whether s/he can change A' in order to understand the workings of this exchange. Furthermore, it is interesting that not only does B's response deny A's estimation of who has knowledge but also allocates the roles appropriately simply by uttering the question 'can I?'. This question receives no direct answer nor does it need one, its work has been done simply in virtue of its having been asked. The 'information transmitted' might then be interpreted as:

'Only A knows whether B can change A'

or,

'in any situation in the maze game, it is the player who wishes to be changed who is in possession of the knowledge of where the other player must move.'

or any number of similar propositions. They would all, however, for the understanding of the discourse organisation, be inessential analytic constructs. What is essential, following this exchange, is that A knows 'how to go on'.

How then should the exchange be construed? Returning to the conception of the unit 'negotiating the transmission of information', I will focus particularly on the *negotiation* aspect, first with respect to question-answer type adjacency pairs, and only subsequently seeing if further generalisation is possible or desirable with the exchange structure model. Of primary significance, therefore, will be the exchange viewed as the unit 'over which turn-taking is predictable' (Berry, 1981a, p131) and, with this is mind, I now turn again specifically to Berry's proposed functional constraints upon the well-formedness of exchanges.

Berry's functional constraints on the development of discourse as described in the previous chapter can be seen as attempts to suggest isolable aspects of the more general notions of 'conditional relevance' between adjacency pair parts and 'prediction' in the exchange theories of Sinclair and Coulthard (1975), Coulthard and Brazil (1981), Stubbs (1981), and others. The discourse micro-functions are intended to suggest specific restrictions for their formal manifestations. Indeed, all five sets of Berry's constraints may be seen as an attempt to give Coulthard and Brazil's claim that 'the power of the exchange is that as one progresses the available options decrease rapidly' (1979, p43) considerably more theoretical bite.

Now, it is apparent that there are many question-answer sequences in the maze game protocols for which Berry's account supplies a reasonably appealing and straightforward analysis. These can be extremely straightforward as in:

B: Are you stuck all ways?
A: Well I can go back but it's really a waste of time
B: OK

[11F.1]

which can be analysed as,

k2	k1	k2f
pb	pc	
ai	bi	aii

or

A: you on the third column fourth up?
B: yes

[P1.16]

which corresponds to

k2	k1
pc	ps
ai	bi

They can also be more complex exchanges such as the insertion sequence seen above in segment 44A.20 (lines 2-5). This might be covered by an exchange of the following form:

k2 k2	k1	k2(qk1):k2	k1
pb pc	pc		ps
ai	bi	aii	bii
yes?	no...	4 5	4 5

In the majority of cases, however, in order to impose Berry's organisation upon actual utterances, a good deal of flexibility needs to be retained in the application of the functional categories. Indeed, even for these simple cases I have needed to adopt a generous interpretation of what may count as an instance of an exchange or an element of an exchange in order to be able to apply the framework as it stands and there has certainly not been any formal 'identification' process by which I could state why the given analyses are 'correct' or better than any that might be proposed in their place.

A discussion of some particular problems with applying the current exchange structure theory to the data at hand will clarify the directions in which the theory must be 'stretched' to accommodate data such as those discussed in this section more naturally. The first problem I address concerns what are to be considered the *elements* out of which exchanges are constructed. The second will deal with the development of the propositions carried by exchanges, a

problem mentioned above with respect to ascertaining exchange boundaries.

6. Turns, sentences, or moves?

A difficulty which immediately arises in trying to apply an analysis such as Berry's to the maze game data is the status of speaker *turns*. For example, as we have seen in chapter two, Sinclair and Coulthard (1975, etc.) have a discourse level rank scale consisting of acts:moves:exchanges, while Berry attempts to extend the lexicogrammatical-level rank scale to handle discourse giving sentences:moves:exchanges. However, all that which is actually given in the stretches of language observed appears more on a par with Sacks, Schegloff, and Jefferson's (1974) observation that 'speaker transition recurs'; the proposed relations of speaker turns, defined as stretches of talk between speaker transitions (a definition clearly in need of further refinement), to the units of the variously proposed rank scales are still far from unproblematic.

Sinclair and Coulthard (1975), for example, start with the adjacency pair notion of the turn but decide that they need a smaller unit, which they term the *move*. Also, Coulthard (1977, p69/70) suggests that the stretch of language termed a turn by those employing adjacency pair analyses is, in fact, nearer to Sinclair and Coulthard's conception of the move than to a speaker's 'turn at talk'. For example, the single turn at talk

> 'A: To keep you strong, yes, to keep you strong.
> Why do you want to be strong?' (Coulthard, 1977, p69)

both answers one question and poses another, thereby participating in two 'adjacency pairs' which are 'chained' together. The turn at talk is deprived, therefore, of any *structural* significance and fine details of the interaction of actual physical turns do not play any significant role in Sinclair and Coulthard's exchange structure account. Similarly, Berry's (1981b) construction of moves from classes of sentences makes no explicit use of the physical turn at talk. Exchanges are the units over which turn-taking is predictable yet the elements of exchanges are moves. It is therefore accepted that turns *are* moves; for example, Berry says of the following discourse segment,

Teacher:	What are seven twelves
Pupil:	Eighty-four
Teacher:	Right
Teacher:	And what are eight twelves
Pupil:	Ninety-six
Teacher:	Right

that

> 'It is within the exchange that strict turn-taking must be observed. It is only at an exchange boundary that a given speaker may take two turns following.' (1981b, p37)

However, I think this neglect of the physical turn at talk as a theoretically significant unit complicates the resulting theories in both Sinclair and Coulthard's and Berry's cases.

Richardson (1981) approaches the physical turn and the 'logical' turn, or move, in a more equal fashion. She adopts two distinct dimensions of patterning: the 'structuration' of talk, around which exchange structure centres, and the 'synchronisation' of talk, to which Sacks, Schegloff, and Jefferson's (1974) 'simplest systematics' of turn taking applies and for which notions such as

'overlap' and 'turn gaps' become relevant. The separation of these two kinds of organisation of discourse permits Richardson to adopt the following position:

> 'Although the turn-taking principle is appropriate for the description of the synchronisation of talk it is not a useful principle with which to describe its structuration, for not only can we point to many turns which accommodate more than one contribution [move], many contributions in fact occupy more than one turn.' (1981, p58)

Thus, a certain degree of autonomy is introduced between the distribution of moves and the distribution of turns.[8] Richardson makes use of this to argue that lexicogrammatical units can themselves function in discourse patterning rather than serving only as the *realisations* of units of the true discourse stratum. With this in mind she provides several examples where the contribution of a speaker is to be regarded as a single move because of its *syntactic* unity - even though this many spread over several turns and include clarifying side sequences where the speaker produces turns *not* structurally related to the larger move in progress.

When applied to the maze-game data this distinction between synchronisation and structuration immediately helps with the usability of Berry's systematisation. For example, the first 'exchange' of protocol segment P1.16,

A: where are you?
B: right see I'm at the third column
A: uhu 4 up
B: yeah

---

8. It is noteworthy that Reichman (1981) has come to a very similar conclusion from the completely different perspective of her own context space theory of discourse: 'Analysis of natural dialogues reveals that there is no direct connection between a speaker's single turn (or speaker shifts) and performing a single conversational move.' (p37)

presents the problem that by A's second turn the exchange appears to be structurally complete even though parts of the proposition are still being proposed (e.g. '4 up'). Berry's functional-level analysis would be of the form:

k2	k1	k2f k2	k1
pb	pc		pc
ai	bi	aii / ai	bi
		[uhu]	[yeah]

and the final k2-k1 pair is considered a bound, or 'embedded' exchange along the lines set out in Berry (1981b); some simple embedded exchanges were illustrated at the very end of the previous chapter.[9] However, the sense in which the final two moves form a bound exchange is very different from those examples offered in Berry (1981b) since it is somewhat artificial to claim that '4 up' 'embeds' in any way the proposition at issue in the matrix exchange.[10] '4 up' simply continues that proposition's articulation and so I suggest a discourse-functional characterisation of these four turns more in line with the following:

k2	k1	k2f-k2	k1
pb	pc	pc	ps
mi	mii	. .	miii

In this version, then, the second move, mii, in which the complete proposition is given via the two occurrences of pc, is shared across two turns at talk; in general, the presence of '.' as a discourse function will be used to indicate that the previously specified discourse function is still in effect. This kind of contribution and

---

9. Note that to accommodate A's 'uhu' it is already necessary to construe the functions ai, bi, aii, etc. as indicating *moves* rather than *turns*.

---

10. Curious quantificational treatments in a Montague-type framework, of course, notwithstanding.

its representation at the discourse level will be discussed further in chapter four under the possible categories of ellipsis; noteworthy here, however, is the divergence in this use of 'move' from the speaker-based construct commonly employed in discourse analysis. The move of the discourse level is to be restricted in meaning to refer solely to the development of the exchange and hence of the conversation. The *turns* that make up this move might well receive separate (and, indeed, endless!) interpretations as *rhetorical* moves, i.e. in terms of their social interpretation, but this is not what is being focused upon within the discourse level of organisation.

Even though this begins to weaken the structural unity of the exchange with respect to turn-taking and clearly requires alterations in the details of the three layers, I will argue that the more 'fluid' assignment and acceptance of predictions on what is to come enables a far more natural characterisation of complex interaction to be captured. In particular, in order to capture the flexibility and adaptability that will be evident below in the use of discourse resources, a re-emphasis will be necessary upon the principle of 'continual classification' that Sinclair and Coulthard (1975, p120) adopt from the ethnomethodologists. Although according to this principle each discourse contribution is to be seen in the light of the expectations set up by the contribution preceding, the exchange structure schemes typically defined capture this setting up and meeting of expectations well only in so far as the contributions considered contribute to the construction of a 'well-formed' exchange. If the notion of the well-formedness of exchanges is not

given such centrality then one is free to investigate the creative use of the resources available in a more revealing manner.[11] The analysis needs to make clear what a particular choice of discourse functions *achieves in context* and this is often hindered if a choice is considered idiosyncratic or deviant. The discourse characterisation presented here is an initial attempt to capture the workings of 'interactional contingency' as we saw Schegloff describe it towards the end of chapter two.

Immediately clear here, therefore, is the possibility of making the discourse-functional organisation very much more responsive to the fine details of the lexicogrammatical options exercised. A's second turn can be seen as a continuation of the lexicogrammatical unit begun by B. Thus, its status as a move can be characterised as a continuation; this is a phenomenon of the structuration of the exchange. The fact that the speaker changes *during* the move is a synchronisation phenomenon with its own significance and I will develop an account of this below. The necessity of B's final support is then predicted by the switch from k1 to k2-status during the previous move since this requires a further k1 on the proposition at issue. B is then restricted to either supporting or rejecting that proposition because the proposition is already complete.

An example of the latter possibility, i.e. rejecting the proposition, has also occurred in the examples above; that is, in the

---

11. This will turn out to be analogous to Levinson's (1981) call for an emphasis upon 'strategies' rather than 'rules' of discourse/sequential organisation.

insertion sequence of segment 44A.20:

A: You're at 4 4? S- (1s) Yes?
B: No, I'm
A: 4 5
B: 4 5 (1s)

This can now be characterised as the following sequence of discourse function bundles:

k2 0 k2	k1	k2	k1
pc ps	ps-pc	pc	ps
mi mii mii	. miii	.	miv

The initial move can be treated as a pc rather than a pb-function because, as indicated by its syntax, it is calling for agreement or disagreement rather than questioning the polarity; the 'proposition' being exchanged is taken to be already complete but what has not been established is the participants' attitude to that proposition. Such a move then predicts the following move:

k1 / ps / mii

No such move is forthcoming, however, and B does not take up the turn at talk offered. As a consequence A gives a prompt. This is still characterisable as the second move of the exchange in that its function relative to the exchange as a whole is to begin what typically that move would achieve and it does as much as A can towards providing the move that is predicted. It is not in A's power to give the k1-function required and so the k2-function preserves the prediction that B should respond before the mii-move can be satisfactorily completed. B, in fact, attempts to disagree with the proposition A has been responsible for building but A interrupts and repairs it before B can propose an alternative. Finally, B supports the modified proposition that has been achieved and no predictions are left outstanding apart from A's general right to a turn by virtue

of having asked a question previously.[12] This is further reinforced by the fact that there is a structurally predicted response called for by the exchange in the context of which this exchange forms an insertion sequence.

Again, in this latter example, attention to lexicogrammatical details can support the segmentation at the discourse level. The way A's interruption of '4 5' continues B's interrupted utterance, which in turn, or in addition, can be seen as the beginning of a reiteration of A's opening question adjusted for speaker, can be used to justify taking that '4 5' to be a *continuation* of the pc started as move miii by B just as was the case in the example from P1.16 above. Many more examples of this kind of lexicogrammatical dovetailing will occur below and in subsequent chapters. Equally importantly, the relevance of the discoursal structuring will also be discussed since the data so far is compatible with the simpler principle 'do not repeat things'; I need to show that the choice of lexicogrammatical pattern indeed helps achieve the particular shape of the exchange the participants require.

The discussion of propositional development will both aid this demonstration and begin to set the scene both for a more adequate understanding of the discourse-functional patternings so far suggested and for the analyses of chapter four.

7. Thematic progression

---

12. Sacks (1972, p343).

As mentioned above, in the maze game protocols, and in all likelihood in most natural informal conversations, exchanges do not have the proposition they are to 'transmit' set out neatly compartmentalised prior to commencing interaction. Within an exchange a participant may *propose* a proposition, but that proposition may well undergo various modifications as the interaction proceeds. Also, across exchanges, the propositions will tend to lead into one another in a process of continuous modification and connection and it is precisely this fact that often hinders the precise location of exchange boundaries.

To consider another example passed over briefly above, the exchange:

B: Are you stuck all ways?
A: Well I can go back but it's really a waste of time
B: OK

[11F.1]

was presented as a simple case of

k2	k1	k2f
pb	pc	
ai	bi	aii

However, A's contribution is more than a completion of the proposition sketched out by B's question. In pretheoretical 'rhetorical relation' terms, A's utterance can be decomposed into a negative reply which presents a possibility of movement and a justification for not accepting that possibility. B's final contribution is as much an acceptance of that justification as it is an 'indication of a state of knowledge' concerning whether B is 'stuck all ways' or not. This detail is not encoded in Berry's

classification although a description of A's utterance as a 'move' with a head 'act' or 'sentence', which provides the required pc, and a sub-ordinate justification, not shown at the level of the exchange, is compatible with her framework.

The problem with such a 'structurally rich' interpretation is that it appears from the data analysis that in actual interaction such structures become 'unwound' very easily. This then requires a treatment in terms of deviance. In contrast, the more fluid use of the discourse functions I am beginning to outline here amounts to a layered approach to conditional relevance which emphasises a moment-by-moment assessment of the discourse situation as a basis for continuation, not a structurally assigned determination of possibility that tightly constrains the linguistic behaviour of the participants over an extended stretch of discourse. Whatever is put forward as a contribution to a discourse will be interpreted in the light of its discourse-functional position and the prediction this creates; 'deviation' is always possible and is not, therefore, appropriately described as 'deviance' at all.

In the maze game example at hand, 11F.1, there is a fairly clear link between the propositions actually expressed and those that are predicted. The entire exchange could be expanded as follows:[13]

B:	Are you stuck all ways?	[k2/pb_1]
A:	No	[k1/pc_1]
B:	Therefore you can move	[k2f]
	Where can you move?	[k2/pb_2]
A:	I can go back	[k1/pc_2]

13. This is analogous to Goffman's (1981, p62) description of indirect speech acts and is a forerunner of Levinson's (1983) account that I introduced in chapter one.

B:	Why not go back?	[k2/pb_3]
A:	It's really a waste of time	[k1/pc_3]
B:	OK	[k2f]

A description of the actual exchange which could exhibit this development as it is achieved by that exchange would be preferable to the one given above and would also make the reconstruction task, an analytic construct with all the usual pitfalls of over-analysis, misinterpretation, etc., unnecessary.

A more complex classification of the form:

k2	k1	.	k2f
pb_1	pc_2	pc_3	
mi	mii	.	miii

begins to achieve this. The subscripts to the ideational layer functions are to label the particular form of the proposition being negotiated at that point in the discourse; in many cases within exchanges this will be tied quite specifically to the lexicogrammatical and intonational expressions that have been used. This choice of ideational layer organisation is then intended to capture the 'ongoing' achievement of a stream of propositions linked by relevance. Importantly, however, that relevance must be recognised as as much an achievement of the discourse as an objective assessment - by proposing a particular proposition the proposer is automatically undertaking to supply grounds for its relevance if called to do so. As Levinson explains in a similar vein:[14]

> 'If S has been talking about X, B should find a way to talk about Z (if Z is the subject he wants to introduce) such that X and Z can be found to be 'natural' fellow members of some category Y. However, it should not be thought that such co-class membership is somehow antecedently given; rather it is something achieved in conversation.' (1983, p313)

---

14. Following Sacks's unpublished lecture notes (April 5, 1971).

Thus, to consider again the last classification offered for the unexpanded form of 11F.1, the difference in lexicogrammatical selections between B's first turn and A's response is a strong indication that A is proposing the contribution of a new, but necessarily relevant, proposition. The move most simply predicted by B's question was:

$k1/pc_1/mii$

and A's actual response will be interpreted in the light of this. Furthermore, and this will be developed upon below, the presence of a contribution such as A's

$k1/pc_2/mi$

can serve to classify *further* B's question as

$k2/pb_2/mi$

in addition to its initial interpretation. In other words, the answer can show the answerer's attendance to some particular aspect of the question as being the 'real' issue at hand. To use Goffman's example: in

A:	Do you know the time?	[$k2/pb_1/mi$]
B:	5 o'clock.	[$k1/pc_2/mii$]

B's response additionally classifies A's question as pb_2 (a classification A can then either accept or deny) and so, in addition to answering a question, indicates clearly what the relevant question was taken to be: i.e., in this case, 'what is the time?' or 'tell me the time'. The predictions for discourse contributions sanctioned by the discourse level resources are therefore sufficiently strong so as to guide the interpretations, or the possible inferences, that link utterances together: precisely *because* a '$k1/pc_1/mii$' is predicted,

an occuring 'k1/pc$_2$/mii' will make strong claims about the relatedness of the two propositions.

Another clear case of propositional development within an exchange occurs with insertion sequences. To take the first two turns of segment 44A.20 above, i.e.

B: Right, where are your S boxes from where I am?
A: You're at 4 4? s- (1s) Yes?

the second question begins a pre-sequence, to use Schegloff's term, to the answer to the first. That is, the proposition put forward as a basis for development over the course of the exchange itself turns out to be in need of development and attention turns to that task until a satisfactory base proposition is achieved. The discourse-functional organisation of the entire segment 44A.20, interleaved for clarity with its actual utterances, is given in figure 4 below.

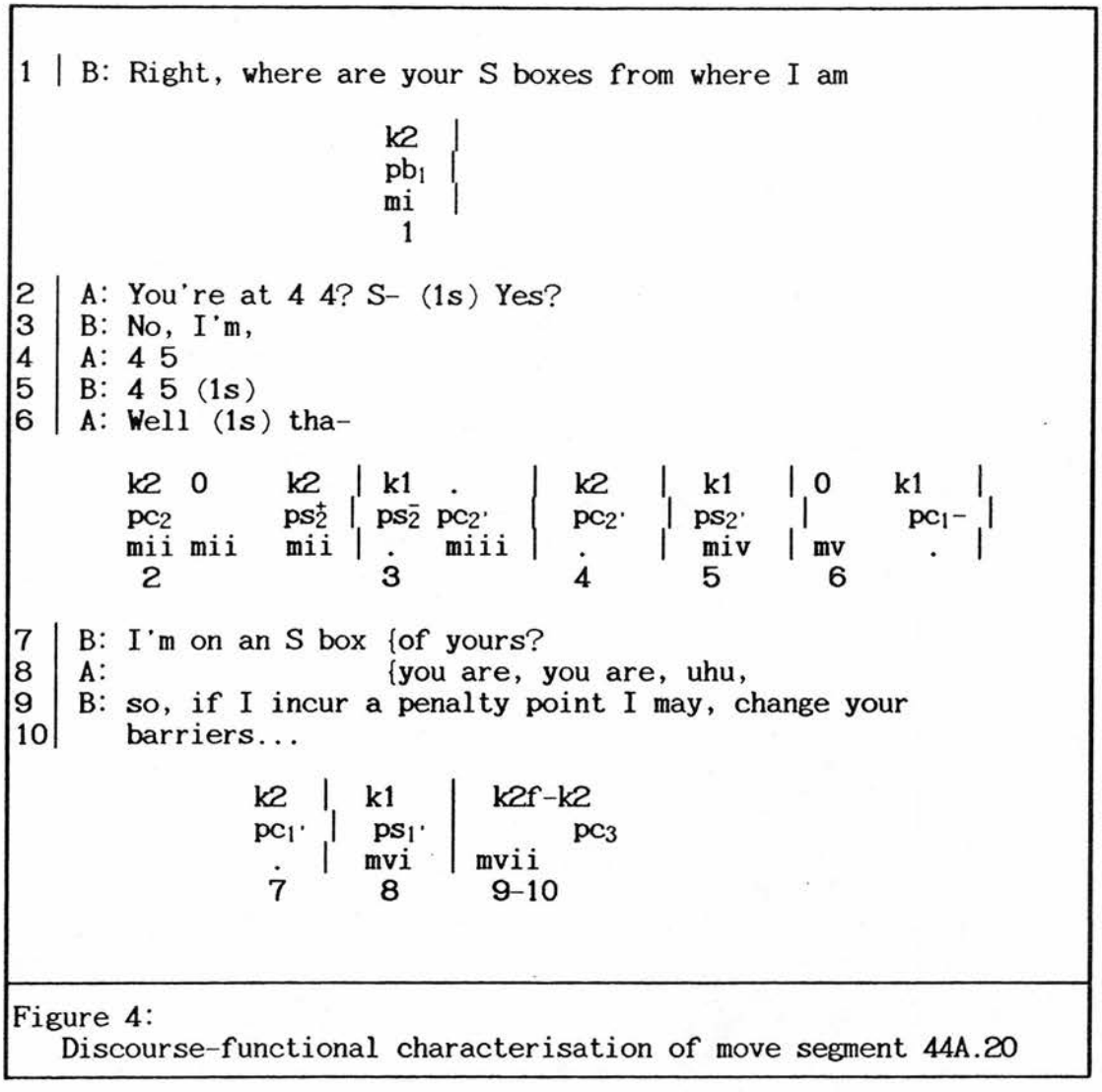


Figure 4:
Discourse-functional characterisation of move segment 44A.20

In figure 4, and henceforward in my discussion of the discourse level of organisation generally, the use of ideational function subscripts of the form N' will indicate that a modification to an existing proposition is being proposed rather than starting another proposition *de novo*, and the '+'/'-' superscripts to ps-functions will specify whether the support is positive, i.e. agreement, or negative, disagreement.[15] Note that *locally* Berry's simplest predictions within layers are generally preserved; i.e. k2 for a particular proposition predicts an appropriate k1, a pb_n predicts a

pc_n which predicts a ps_n and, in addition to Berry's constraints, a ps^-_n predicts a pc_n'.

This characterisation does not, however, capture the particular facts of the case which indicate that the second move begins an insertion sequence rather than performing some other function; the relation between the proposition of pb_1 and of pc_2 is not specified even though it is explicitly identified in the utterances selected. B states 'from where I am' and thus presupposes that this is shared information. A more detailed articulation of propositional, or ideational-layer, development will make this kind of discourse organisation more transparent to analysis.

One kind of treatment of propositional content that will be of particular use here is that which considers each discourse contribution as answering some relevant question; for example, Keenan and Schieffelin (1976) uses a definition of 'discourse topic' as the 'Primary Presupposition' of some 'Question of Immediate Concern' which provides the basis for judging which new material a declarative contribution may introduce as relevant.[16] I.e.,

---

15. A complete summary of the discourse level notation I develop is given in appendix I below; also, if you are reading an original version of this thesis, there should be located within the inside cover a card reproducing this information for ease of reference while following the analyses presented in this and subsequent

16. The analysis about to be presented, in fact, contrasts nicely with that of Reichman (1981) where, in Keenan and Schieffelin's terms, 'discontinuous discourse' is at the centre of attention. Here, the other side of the coin, i.e. 'continuous discourse', will be the theme of discussion. Reichman suggests that continuous discourse does not need a thorough discourse-level analysis, I think the arguments presented in the next chapter will show this position to be unwarranted.

Declarative (Response)	=	New Information relevant to question of immediate concern	+ Primary presupposition of question of immediate concern (Discourse Topic)

(Keenan and Schieffelin, 1976, p345)

Another example of a question-related approach is the 'question-test' method of ascertaining the information status of clause elements devised by the Prague School. This, in essence, considers each sentence to be an answer to a set of questions. Elements of the sentence which are necessarily found as elements in all the questions are then placed in a 'topic', or 'contextually bound', segment of the sentence, elements in none of the questions are placed in a 'comment', or 'nonbound', segment, and any elements left over are assigned to a 'transitional' segment.

Now, both these analyses are reminiscent of the explicit account of the relation between questions and answers represented within the ideational layer of exchange structure. In Keenan and Schieffelin's account, the question of immediate concern can be represented as fulfilling a pb-discourse function; it provides the basis with respect to which a particular answer may appear. Similarly, the question-test method can be described as considering a set of question-answer pairs of the form:

k2	k1
pb_i	pc
(Q_i)	(A)

The fact that any particular answer significantly constrains the set of possible questions is due to that answer carrying with it a strong

---

chapters.

sense of what is being answered.

To accommodate these kinds of observation I will accept a representation of the propositions negotiated during exchanges which consists of two segments corresponding to the Prague School's bound and nonbound segments in the semantic interpretation of the clause. However, I will term these segments the theme and rheme respectively.[17] There is, as suggested, some correspondence between pb and pc discourse functions and the theme-rheme articulation of the proposition but this will need to be made more explicit.

First, the theme will always contribute to the pb aspect of the exchange; this follows from the phenomena upon which the question-test is built. Also, the pb aspect *may* contribute to the rheme although it need not. A proposition is then made complete by the proposal and acceptance of some suitable rheme. This enhances the characterisation of contributions in maze game protocols as follows.

Simple 'statements of fact' such as:

Right, I'm gonna move down	[11F.8]
I can move left	[11D.3]
well it's me who's moving anyway Al	[P1.1]

etc., can be described in terms of <theme|rheme>-structures by

---

17. Similar distinctions have been drawn by Kuno (1972, 1975); by Bates and MacWhinney's (1979, p178) "single pragmatic relation of topic-comment created in the process of making communicative points"; and, more recently - and formally, by Bosch (1983, pp93-104 and *passim*) in 'focus-sensitive function-argument' structures. I will not be concerned with a formal representation here, however; the main application of the proposed representation will be as a means of capturing the 'information content' of discourse contributions so that some of the considerations relevant to the selection of that content can be addressed.

propositions of the form:

<I'm going to move somewhere | down >
<I can move somewhere | left >
<someone is now to move | me>

respectively. The highly elliptical rhemes are to emphasise the dependence of this segment on the theme. Clearly, ad hoc specification of themes for contextualising propositions is not particularly useful but, combining this mechanism with the discourse functions introduced so far will begin to suggest more adequate means of ascertaining thematic and rhematic proposition-parts that can be built upon in chapter four and subsequent work.

Whenever an actual question is asked a very strong candidate for the theme of the proposition at issue is established. For example, returning to segment 44A.20, the question:

B: where are your S boxes from where I am?

proposes a proposition which begins:

<there are relevant S boxes,
they have locations L_i,
B is at position P=4 5,
L_i relative to P are | ...

This is the propositional base designated pb_1 above. Now, an insertion sequence is performed in order to prepare the way for answering a question which cannot be best answered as things stand. The insertion sequence calls for further actualisation details to be brought into the open and can, therefore, either call for the recapitulation of information whose shared status has become weakened or, alternatively, further develop the *theme* or *pb* of the proposition at issue so that the answer can be constrained to be maximally relevant to the question the asker is attempting to achieve.

In the current example of 44A.20 I have placed the proposition 'B is at position P' in the theme of the relevant proposition because, as with the other components, there is evidence from the protocol that there are good grounds for considering these propositions to have been shared; an initial investigation of the principles for achieving this allocation of theme and rheme components will be undertaken in the next chapter. This is, in fact, supported by the form of A's next utterance which, lexicogrammatically, is not a question but a simple declarative - strongly suggestive of a pc-function. This is to be expected because the proposition, as an element of the theme, is not being presented as a subject for negotiation. A shows awareness of this fact by presenting his/her question as a statement of an already arrived at proposition, i.e. the proposition, designated pc_2 above,

<B is at position P = | 4 4 >$_2$

B then, in producing a following ps_2, has to reject A's proposal since it amounts to an assessment of the theme of the shared proposition B is attempting to achieve. Had B's position simply not been in the theme then A's response would more likely have been:

well, where are you?

as in the similar exchange:

A: If I move up, will I affect you?
B: Where are you?
A: I'm, see that row you're on?
B: Aye
A: I'm, at, second from bottom
B: Well, you don't change me, no.

[11D.15]

While in:

A: right, what happens if I move to the right?

B: Wh-, you're at the very top, are you?
A: No, I'm one down from the top
B: If you move to the right,
you change me

[11F.9]

B begins as if the theme does not include A's position but then self-corrects, although wrongly.

For the proposed mechanisms to offer any benefits for the analysis of the maze game protocols in particular, and discourse in general, the links between the lexicogrammatical descriptions of contributions and their discourse functional descriptions will clearly need to be made more explicit. However, even though this is also necessary in order to refine the proposed discourse functional classifications so as to reach a state where they may profitably be formalised, in this thesis I will only be able to begin the investigative work required. With this in mind, then, the next chapter will now turn to the examination of some of the observable formal, i.e. syntactic and intonational, phenomena of maze game talk and considers whether there are any indication that they can be reliably interpreted as manifestations of discourse organisations as captured by the discourse framework that I have now begun.

Chapter Four

Some functional organisations of discourse

1. The aims of the current cycle of analysis

Although I did not describe this aspect of her work in any detail, Berry's (1981a, b) initial framework for a Hallidayan functionally-layered view of exchange structure attempts a certain degree of formality by specifying the syntactic realisations of her discourse level functions. For example, the sequence of ideational functions (pb, pc, ps) is related to a sequence of increasingly elliptical classes of clause, while the interpersonal functions (k1, k2) are associated with a distinction between questions and nonquestions.

Unfortunately, as I suggested in the previous chapter, this simple association of function and form is largely made possible only by a strict structural pre-interpretation of the exchange and a suitable restriction on the area of data considered. With my move towards trying to gain a better general understanding of the linguistic patterning of discourse and of what that patterning achieves, an immediate statement of the co-occurrence relationships between discourse level functions and syntactic/intonational manifestations has had to be postponed. It will be essential, therefore, in the 'analyses' that follow, to be clear on precisely

what claims are, and are not, being made.

First and foremost, I must emphasise that the contents of both this chapter and the next are to be accepted as the first stage towards a true formalisation of the organisation of conversation rather than as that formalisation itself. The reason for this is as follows. As I described in chapter two, systemic grammar can be conceptualised as dividing its descriptive workload between ordered, functionally-labelled components of structural units and a network of decisions as to how those components are to be arranged and realised. This division permits a methodological separation of the formalisation task for conversation into two stages, of which this thesis will only address the first. In this stage it is the functional components of conversation themselves that are being sought rather than their attendant decision processes; this renders the investigation *essentially* pre-formal in that it is only with the specification of the decision processes also that a true 'formalisation' is to be obtained.

The motivation for this way of proceding is to be found in the lack of knowledge currently concerning linguistic 'structural' patterning at the level with which I am concerned; i.e. at the level of discourse and conversational organisation rather than of the clause. As was shown in the introduction to Nigel in chapter two, there is now a reasonably good understanding of the kinds and types of structural-functional elements from which clauses are constructed. These are represented in a systemic framework such as Nigel by those

functions that are introduced by realisation statements spread across the networks of choice. However, when we come to consider discourse, similar knowledge is scarce - which is not, of course, surprising since discourse has not typically been regarded in the way I have proposed we accept here.

The eventual aim of formalising discourse activity in terms of this level of functional organisation must be to achieve a set of discourse-oriented 'structural' categories that enables the relationship between discourse organisation and formal, i.e. syntactic and intonational, organisation to be captured more readily. It has not proved possible so far to achieve a similar goal by appealing to the more globally-centred functional organisations provided in so-called 'rhetorical' relation accounts and so, rather than by appealing to some social interpretation of language activity such as that they offer, it is hoped that remaining closer to the micro-organisational details of discourse and conversation will fare better. Subsequently, an account of discourse structure couched in terms intrinsic to conversational activity itself might be in a better position to permit a more formal specification of the rich structural patterning that has been observed in both discourse and conversation analytic accounts.

The intermediate aims of the current thesis can therefore be expressed thus. Pre-formal discourse-functional classifications of sequences of discourse contributions are to be collected and discussed in order:

1) to facilitate an improved understanding of the particular *functional loads* specific to conversation that discourse contributions carry - this amounts to a pre-formal attempt to characterise the interactive achievement of conversationalists in more general and theoretically grounded terms than found in conversation analysis;

2) to capture what various discourse organisations have *in common* - to label two, apparently quite diverse, stretches of language with the same discourse function is to claim that they perform the 'same', in some fairly strong sense, work relative to the discourse;

3) to begin to get an improved sense of precisely *what kinds* of form constraints discourse organisation, as expressed in terms of the discourse function characterisations, brings to bear;

and 4) to arrive at a better position from which to construct *systemic networks* for the discourse level, i.e. the functional classifications are to provide constraints and guidelines on the networks of choice that are to be constructed in a subsequent cycle of analysis.

Before proceding to the analyses and discussions of this chapter proper and their further accumulation of discourse function sequence classifications, I will now, in order to clarify the above aims somewhat, illustrate their application with a brief summary of the framework as developed in the previous chapter. This is made doubly appropriate by the weakened relation between form and functional labelling that the extended framework exhibits; the status of the proposed discourse organisation classifications has already

been altered sufficiently from Berry's original conception so as to require a more explicit statement of what those classifications now represent.

2. Summary of the status of the extended discourse framework

A good rallying point for revealing the differences between exchange structure as proposed by Berry and the discourse level as I am developing it in this thesis is offered by the final discourse characterisation for the move segment 44A.20 that appeared as figure 4 of the previous chapter. Prior to this example sequences presented could be construed as being at least similar to the exchanges of Berry cited in chapter two. In the analysis of 44A.20, however, we find more loosely constrained cycles of k2-k1 and pc-ps function sequences occuring, functions occasionally being repeated, and no explicit marking of exchange boundaries.

The reasons for this change centre around the different emphasis I argued for in the previous chapter concerning the interpretation that is to be given to the functional work the discourse level achieves. Thus, the move away from considering an exchange to be the 'unit concerned with the *transmission* of a proposition' to focus more upon the *negotiation* of propositions naturally tends to accept a far greater fluidity in the sequences supported. What must now be attempted is the construction of a framework which can appropriately represent and constrain that fluidity.

Several aspects of the 'weakening' of the structural integrity of discourse sequences relative to Berry's framework have now been illustrated; for example, a single function bundle is no longer equivalent to both a move and a turn as was the case in Berry (1981a), neither is an exchange necessarily concerned with just one predefined and static proposition. As consequences of this, the idea of an exchange as a unit over which 'turn-taking is predictable' has to be given less prominence and more refined recognition criteria have to be found for the functional labelling of discourse contributions.

In this and the following chapter I will propose various symptomatic lexicogrammatical and intonational details of utterances in the maze game protocols but I must stress that I am not able to present adequate formal criteria for label assignment at this stage. It is to be hoped that later analyses, building on the guidelines I set out here, will achieve some success in this direction but, as I have explained, at present the approach remains informal. Before briefly sketching the work characterisations at the discourse level are to perform, I will summarise the revised status of the functions proposed within each layer of discourse structure and attempt to clarify further the new constructs and relationships involved.

First, then, at the interpersonal layer, Berry's view of primary and secondary knower maintains an unnecessarily individualist orientation in that details of the speakers' and hearers' actual

knowledge states are quickly brought to mind. The real issues here should rather be: (i) who accepts *responsibility* for what is proposed in the discourse and for developing what is proposed further if required; and (ii) providing an interpretation of the development of a discourse in terms of a process which increases the number of speakers who might subsequently adopt a position of responsibility with respect to the ideational content shared during that discourse if they are called to do so. Thus, a k2-labelled contribution is taken explicitly to decline responsibility for developing the discourse on the topics established as relevant at that time. For a discourse to proceed smoothly, for some speaker to take responsibility for its subject matter naturally facilitates matters and the k1 label is assigned to contributions which achieve this. The k2f function then represents contributions where the subject matter of the discourse thus far is claimed to have been shared among the participants successfully. Significant here, as with all the discourse level functions, is that the central aspect of their meaning is how they *effect the development of the discourse*. It is perfectly acceptable, for example, for a speaker who 'knows' some fact to decline the responsibility for developing a discourse where that fact is currently relevant; this will be illustrated further below.

Second, within the ideational layer, each sequence of pb-pc-ps labelled contributions is taken to achieve one completed 'contextual' (or 'environmental', in the Nigel framework's terms) entity and to establish the speakers' attitudes towards that entity. Such entities,

in accord with my current attempt to stay more rooted in the actual concrete forms of discourse and conversation, are to be seen as 'complete' with respect to a single pass through the lexicogrammar: if a contextual entity provides sufficient *specific* information for a complete clause to be generated then that entity will be regarded as complete also.[1] Furthermore, *which* clause is to be generated is normally constrained by the forms that have occured in the discourse. If, for example, there is no mention in the discourse of a location with respect to some proposition then that proposition may be regarded as complete without containing locational information; i.e. propositions should be clearly tied to how they are presented. Again with these functions, what is central is their capturing of the discourse *development*. The pb function takes the discourse from whatever state it was in previously to a new state where there is some explicitly incomplete proposition at issue, the pc function then offers some completion of that proposition, and the ps function records, typically, the speaker who bears responsibility for its development's support, or otherwise, of the proposition as it has been shared in the discourse thus far.[2]

Finally, within the textual layer the shift in orientation concerns considering moves as 'units of discourse development',

---

1. This, of course, needs a far tighter specification but will have to suffice for the present.

---

2. In addition, this developmental aspect of the ideational layer as increasing the range of propositions that may be accepted as shared is the motivation for the labelling of propositions in terms of their *themes* that will be proposed in section 6 below, for it is precisely the theme that captures those aspects that are taken to be already shared.

interpreted in the general light of that which the functions at the other layers are taken to be achieving, rather than as being more closely tied to turns. Thus, a move is an isolable stretch of language that develops the situation in a particular, discourse-motivated way. More than one speaker can then naturally contribute to each such development since it is to be defined with respect to the conversational situation and not with respect to individual speakers.[3]

The purpose of these discourse-level functional characterisations can be brought out by again explicitly connecting them with their position in the systemic framework as a whole. A functional classification (at *any* level or stratum within a systemic account) is a trace of the *choices* that have been made among the networks relevant at that level. It is the networks that specify ordering and value restrictions on the resultant functional structure. At the discourse level, then, such networks are to represent classifications of situations interpreted in terms of the *production of conversations*. Therefore, any particular structural configuration serves as an indication of what conversational situation classifications have been made and, given an adequate specification of the networks, what classifications may follow.

It is the function of the networks to provide an understanding

---

3. It is clear that there remain problems with this view also, not the least being the ill-specified nature of these supposedly 'unitary' discourse developments. Below I will only be able to suggest possible specifications, however, rather than arriving at firm conclusions.

of where one is in the *linguistic* development of the conversation so as to constrain what may be said next. The *range* of potential available at each point serves to capture, in a non-individualised, socially-motivated sense, the 'strategies' for discourse continuation available to speakers in that situation, i.e. speakers' potential for conversational action as provided for by the current situation. Each sequence of function bundles produced at the discourse level therefore indirectly represents a moment-by-moment assessment of the discourse situation as a basis for continuation and offers a functionally motivated characterisation of sequential location as called for by Schegloff and Levinson in chapter one.

Furthermore, the nature of the systemic 'generation' procedure when applied to my view of the discourse level complicates the search for clear criteria for assigning discourse functional labels to utterances because the ordering and value restrictions imposed upon discourse function structures are expressed over *sequences* of lexicogrammatical elements. Recognition is essentially based upon sequence *as well as* form and it is not, in general, possible to take form alone and predict the appropriate discourse function of single lexicogrammatical contributions. This requires that we examine both what forms discourse functions appear to condition, and in what sequential contexts they do so, in order to sharpen the recognition criteria to the point where they might usefully serve as guidelines for accurate discourse classifications and the construction of discourse networks.

It is perhaps also worth drawing attention here briefly to why form alone is not sufficient for functional labelling from the perspective of how the connection between form and *discourse* function is to be expressed in terms of the mechanisms of a systemic framework. Taking three of the functions that have been introduced so far, pb, ps^+ and k1, we might express their 'formal' (i.e. within the stratum of form: lexicogrammar and intonation) manifestations by means of the following realisation statements:

Preselect	PB	Subj-aux-inversion
Lexify	PS^+	'Yes'
Classify	PS^+	Agreement-marker
Preselect	K1	Falling-final-intonation

The right-hand elements in each case are intended to denote system *features* within the formal system networks that would produce realisations of the kinds observed in the previous chapter.[4] However, these realisation statements alone are insufficient because, to be used, they must be placed with the appropriate features of the discourse level networks. In other words, we do not know the *paradigmatic* location of these statements and, hence, we do not know *when* they are to apply. It is, then, necessary to formulate the networks of choice for the discourse level before such realisation statements can be of use and the rest of this thesis is to be considered as the first stage towards this eventual goal.

---

4. Of course, in real specifications of these realisation statements, the features used would be those defined by their respective networks. Thus, with respect to the lexicogrammar as defined by Nigel, the first statement could be stated as 'Preselect PB [Clause, IndependentClause, Indicative, Interrogative]'. These are the features actually employed within Nigel (cf. Mann and Matthiessen, 1983b, pp40-42) and have the effect of placing an 'Order FINITE SUBJECT' constraint upon the lexicogrammatical structural result.

I will now turn back to the problem of accumulating classifications of discourse sequences and of improving the reliability and replicability of such classifications. At present it is appropriate to look at discourse functions as *constraining* lexicogrammatical possibilities rather than defining them. Several suggestive links have already been made in the previous chapter between discourse level constructs and form; e.g.: the link between *moves* and lexicogrammatical cycles (as evinced by the sharing of moves and moves being 'redone'), the link drawn between *propositions* and lexicogrammatical cycles, and the link between k1- and k2-labelling and turns. In particular, in order to see whether statements can be made that (i) improve the, currently intuitive, labelling procedure, and (ii) enable constraints to be suggested across sequences of lexicogrammatical units, I will examine the following formal stratum phenomena: ellipsis, some simple anaphora, particular syntactic form selections, the ordering of units, turn boundaries, and some simple distinctions of intonation.

The investigation will be organised into various analyses as follows. Sections 3 and 4 will consider certain aspects of ellipsis, section 5 will begin an investigation of tag questions, and section 6 will consider two particular forms of anaphoric reference. In each case the claim will be made that the deployment of these available forms does suggest a resource for the construction of particular structurally-characterisable sequences of discourse development. The final section of the chapter then attempts at least to summarise the conclusions drawn during analysis concerning the organisation of

discourse level resources.

3. Categories of ellipsis

This section will begin the assessment of the ellipsis phenomena found in the maze game protocols. It is necessary, first, to describe ellipsis in a manner compatible with the extended systemic framework I have adopted. This can be achieved by considering ellipsis as a resource for making use of conversational work that has already been done. This functionally-oriented characterisation proves more revealing than one more narrowly circumscribed appealing to notions such as 'incomplete' structure.

In terms of the actualisation processes among the linguistic networks, i.e. the process of 'making choices', ellipsis becomes a means of accepting aspects of established actualisations as the starting points for further actualisation. This reflects the notion that the language that is used is itself available as a resource for the continuation of talk. Such availability is clearly not context-free and I will suggest that discourse organisation provides one crucial set of constraints upon it. I should perhaps emphasise that I am *not* pursuing here a classification in terms of the lexicogrammatical; Halliday and Hasan (1976) provide this most adequately. This classification resides *above* the lexicogrammatical details at a 'meta'-level. Some similarities may be drawn with the notions of 'recurrence', 'partial recurrence', 'parallelism', etc. of de Beaugrande and Dressler (1981, p49) or de Beaugrande (1980, p133);

however the psychological processing resources upon which these notions are based have no place here. The more appropriate way to regard this classification is as a statement of the *similarities* and *differences* in the choices made across *distinct* lexicogrammatical cycles rather than of the particular *types* of choices made within single cycles that are discussed by Halliday and Hasan. Lexicogrammatical contributions can then be classified according to their elliptical status on the following lines.

A contribution which is the result of an actualisation cycle complete in itself will be termed a lexicogrammatical base. Subsequent contributions can then make appeal to this base and use it in various ways: actualisation can be carried further to make more details explicit; modifications can be made in the base by appealing to it as a context with respect to which the new contribution will be interpreted (i.e. selected choices will be 'undone' and replaced, again to a greater or lesser degree of explicitness); the base can be repeated without change for some reason; or the actualisation can be 'embedded' as a cycle or set of cycles *within* the cycles of new contributions. The following introduces each of these possibilities.

3.1 Additions

The simplest form of further actualisation occurs when the contributions so far are treated as not having exhausted a given actualisation cycle. Thus a lexicogrammatical base need not be specified all at once by a single speaker. This gives rise to two

linked types of ellipsis: ellipsis by virtue of 'more to come' and ellipsis due to 'some already said'. Instances of the former type I will classify as pre-bases, and instances of the latter type will be additions. The elliptical status of the contributions in a

pre-base | add | add | ... | add

sequence is only evident when they are treated in isolation; for example, the following two turns have a 'pre-base|add' structure which succeeds in specifying a completed base:

B: so now we've got more penal{ties
A: {-ties than moves
[P1.3]

This kind of 'ellipsis' arises purely from the interaction of lexicogrammatical level 'structuration' and the 'synchronisation' organised by turn-taking.

There appears to be a strong motivation for discourse participants to achieve complete bases and this renders a contribution consisting explicitly of a pre-base very well-suited to achieve a question:

B: And you are, actually, 5 down and,
A: 2 across
[38A.42]
B: So you are now sort of 4,
A: 4 on the bottom uhu
[P1.4]

In addition, as with almost everything in discourse, classification is an achievement of co-operating participants rather than an objectively given fact of the matter. Thus, what is proposed as a base by one speaker may be justly considered to function as a pre-base if a subsequent speaker provides an appropriate addition. For example in:

B: I can move to the right.
A: And change me?

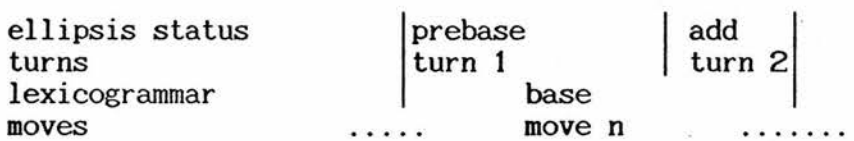
[11D.21]

B: If you move up, you'll change my barriers,
A: And you want me to do that?

[44A.20]

the first contribution of each pair is complete in itself but is then incorporated into the bases established by the relevant second contributions.

These examples can all be taken, therefore, as single lexicogrammatical units which happen to have a speaker transition occurring within the stretches of language they occupy.[5] The various layers and levels of organisation discernible in these stretches of language can be schematised in a diagram such as:



which decomposes the behaviour in terms of the various levels of analysis available. Thus, evidence for the extent of *moves* can be inferred from lexicogrammatical completeness and incompleteness: a move is at *least* one base.

The prebase-addition distinction is not alone in being sensitive to turn boundaries rather than move, clause, or exchange boundaries. The k1 and k2 functions are also assessed relative to the current speaker and this reflects the fact that these functions are not static elements underlying the production of discourse but are

5. Jefferson's (1973) consideration of 'completions' also covers this kind of phenomenon and Halliday and Hasan (1976, p203/4) at least hint at it.

constantly, from moment to moment, being achieved by the talk in progress. This reflects again the commitment of the discourse level to discourse *development* rather than static product. Certain speech-situation exophora is similarly sensitive to current speaker wherever and whenever it occurs: for example, the selection of first and second person pronouns. Thus, in the following:

A: So if I moved up
B: Uhu, you'd be on an S-box of mine
A: Uhu, and then, you wouldn't be able to move, would you?

[44A.13]

although the subject-matter and its accompanying linguistic form is shared across utterances, the subject-matter articulated may be represented by the single expression:

So if [I/you] moved up, [I/you]'d be on an S-box of [yours/mine] then, [you/I] wouldn't be able to move.

The second utterance of A connects grammatically with the preceding clause, i.e. B's utterance, not A's first utterance and so, as far as the lexicogrammar is concerned, the changing of speakers can be ignored. This reiterates the previous chapter's claim that a single grammatical 'structure' may spread over several speakers' turns. Alternatively, to concentrate more on the process of the generation of that structure, a single 'phase' of actualising linguistic potential may spread over several utterances; only the 'intersubjective' process of actualising the potential needs to be maintained. At any time during the process some participant in the context must have taken it up, which participant, however, and the length of time that individual continues to be responsible for the actualisation, are in an important sense immaterial for the lexicogrammatical level. As long as *some* participant is undertaking

to maintain it the actualisation will proceed; the activation of potential is therefore often a co-operative affair.

3.2 Modifications

Modifications usually result in contributions which either make some correction or contrast to what has been said, answer questions using a syntax parasitic upon that of the question, or further explicate some aspect of the proposition proposed in the lexicogrammatical base - again using the syntax of that base.[6] So, whereas the previous type of ellipsis simply accepts the established actualisation as given, a modification contribution explicitly alters some aspects of that actualisation. In order to achieve this sufficient contextualising information has to be given to pinpoint the areas of potential where choices are being reselected. This can be achieved in several ways.

Areas can be indicated explicitly in the *base* by a question word or question syntax; this interprets such lexical items and syntactic devices as making available a lexicogrammatically-based cohesive resource in which specific lexicogrammatical contexts can be set up for further development. This occurs in many simple question-answer pairs, for example:

B: can you move to your left?
A: yeah

[11D.17]

A: where can you move then?
B: back to where I was

---

6. There is, then, some similarity between a base-mod- ... -mod sequence and the discourse unit 'member' suggested by Coulthard, Montgomery, and Brazil (1981, p34).

[P1.4]

The first of these sets up a lexicogrammatical actualisation cycle in which the polarity requires explicit realisation; the second makes available a 'syntactic frame' of the form 'I can move (then) ...' which the answerer, if s/he wishes, can take as given in the actualisation cycle of the answer.

Areas of actualisation can also be specified by the modification itself. This can either be minimally explicit, relying on thematic considerations, as in:

A: OK, we're in the same column, right?
B: Yeah
A: Third

[P1.8]

or completely explicit, relying upon a virtual repeat of the entire base with the modification typically picked out by intonational prominence,

A: And does that mean you can't go up?
B: No, that'll mean I *can* go up.

[11D.11]

3.3 Repeats

Contributions may also simply **repeat** the base established with no modification or further development. This device is usually employed either to indicate the hearer has, in fact, heard what the speaker said, to support a proposition, or to draw attention to what was said in the base to provide an opportunity for self-repair. In all cases the repeat may be **complete** or **partial**.

The first usage is exemplified by:

B: I've moved up.
A: You've moved up.

[P1.16]

B: and the one to the right of that is my home
A: one to the right OK

[P1.16]

The second by:

A: O-on the bottom row?
B: Yeah, on-on the bottom row.

[44A.0]

And the third by:

A: Where are you?
B: Well, uhm, I am on ... the fourth block,
...
A: (2s) the fourth block?

[44A.0]

3.4 Embedding

I will use this classification to describe situations where a contribution is linked by the speaker to the preceding contribution by lexicogrammatical devices such as conjunctions and certain types of ellipsis of the form:

A: ... Can you move down?
B: I don't know

[11F.1]

It must be emphasised that the **embedding** here is to be understood to be at the level of the *processes* of making choices and does not necessarily correspond to any *structural* embedding.

For example, the use of conjunctions to bind discourse contributions is very common and it does not seem appropriate to analyse all such occurrences as giving rise to complex clauses:

B: can you move to your right?
A: Yeah, but we're back to where we were

[11D.21]

A: you on the third column fourth up?
B: yes
A: alright well move up then
B: but I can move to the left

[P1.16]

These do not seem to be equally analysable as 'pre-base|addition' sequences but there is probably no sharp boundary to be drawn between the two interpretations in many cases. The placing of a boundary would, in any case, depend upon the precise lexicogrammatical account of conjunctions adopted: whether they were treated as forming large single lexicogrammatical units (moving towards the pre-base - addition - ... - addition analysis), or as distinct lexicogrammatical units to be related at a discourse level. It is the latter conception that 'embedding' as a classification is intended to cover. The lexicogrammatical base of the preceding contribution is 'made use of' to launch the current contribution but is not considered as 'active' or 'current' as it is in the addition and modification cases.

It is worthwhile briefly considering the relationship between the notion of embedding being suggested here as a category of ellipsis and Berry's proposals concerning 'embedded' exchanges and propositions that we encountered briefly at the end of chapter two from which my use of the term derives. A typical example, from Berry (1981b), is the following:

1 A: is it six o'clock yet?
2 B: yes
3 A: is it?
4 B: yes

(1981b, p6)

This would be analysed according to Berry's functional constraints

as:[7]

k2	k1	k2f:qk1(k2)	k1
pb_1	pc_1	pb_2?	pc_2?
ai	bi	aii	bii
1	2	3	4

As we saw in chapter two, discourse contributions such as that of move 3 are analysed as cases of 'clausal ellipsis' in that they are assumed to be abbreviated versions of propositions of the form:

is it correct that [it is six o'clock yet] ?

But although this might be plausible in the case of responses such as 'sure?', 'really?', and the like, here a simpler interpretation seems preferable; move 3 may be considered as a repetition of the polarity elicitation which draws attention to that area of the propositional development in precisely the same manner as repetitions have been claimed to do above and shown to do below. This saves an appeal to the complicated mechanisms of embedding in at least some cases and yields an analysis more of the form:

k2	k1	k2f	k1
pb_1	pc_1	pb_1	ps_1
1	2	3	4
base	mod	rep	rep

This begins to suggest a greater variety of possible k2f-functions. Move 3 occurs in an expected k2f-slot, but indicates that A's state of knowledge is not as secure as is desirable at the end of an informing exchange. I will make a distinction, therefore, between a 'success' informing function which is exchange-final, 'k2f.f', and a failure informing function, 'k2f.c', which is exchange

---

7. The propositional functions of moves 3 and 4 are followed by question marks because Berry herself does not provide an explicit treatment of the propositional layer for exchanges of this form.

continuing. The distinction also appears to be carried by contributing a lexicogrammatical form that may be positively classified ideationally; e.g. an explicit commitment to the proposition is reconfirmed, in this case, by means of the pb-function indicated by the interrogative syntax. A k2f.c-function then calls for a following k1 and acts as does Berry's qk1. The difference between k2f.c and qk1 lies in the fact that a k2f.c is *not* seen as generating an embedded exchange but, instead, continues the interaction over further moves with the *same* proposition is at issue.

Examples from the maze game protocols conforming to this pattern are:

A: alright that's an S box for me
B: is it?
A: yeah- ehm

[P1.0]

A: Right I'm totally boxed in
B: are you?
A: ehhum

[P1.3]

A: ... {actually, {if you move right I can get to my,
B: {is {is that one of your S boxes?
A: goal actually (laughs)
B: can you?
A: yes

[44A.22/3]

These all, in fact, also conform to Berry's proposed realisation of 'qk1' contributions, i.e. in each case the question "takes the form of the auxiliary verb which has most recently been used in the exchange and a pronoun, these being in interrogative order" (1981a, p137). Now they may receive the analysis:

k1	k2f.c	k1
pc_1	pb_1	$ps^+{}_1$
base	rep	rep

which is essentially the same as the one I just gave for Berry's

example.

Cases such as these are not to be admitted, then, as instances of lexicogrammatical 'embedding' - which is just as well since this would certainly require a stretching of the term somewhat.[8] But what then is to be made of Berry's other proposed examples of embedding - do these generate embedded exchanges as Berry claims or are they too analysable in a less structurally constricted manner? The only relevant example Berry gives here is of the form:

Quizmaster:	In England, which cathedral has the tallest spire?
Contestant:	Salisbury
Quizmaster:	Sure?
Contestant:	Yes
Quizmaster:	Quite sure?
Contestant:	Yes
Quizmaster:	Right.

(1981b, p6)

Berry suggests for this sequence a nested structure consisting of two embedded exchanges; each of the quizmaster's follow-up questions introduces a further sub-ordinate exchange. However, with the discourse resources developed so far, we can now analyse this sequence in what I would claim to be a far more natural way; i.e.:

dk1	k2	k2	k1	k2f.c	k1	k1
pb_1	pc_1	pb_2	pc_2	pb_2	pc_2	ps_1
mi	mii	miii	miv	mv	mvi	mvii
base	mod	emb	mod	mod	mod	rep
		Sure?	*yes*	*quite sure?*	*yes*	

Both the quizmaster's 'sure?' and 'quite sure?' are labelled as

---

8. In Halliday and Hasan's terms these cases are better treated as instances of 'propositional ellipsis' (1976, p198); this would distinguish them from occurrences of 'sure?', 'really', etc. which are cases of 'clausal ellipsis'.

pb_2-functions indicating that they are being taken as elliptical versions of

Are you (quite) sure?

rather than

You are (quite) sure?

which would receive a pc_2 label and require the contestant's subsequent utterances to be labelled ps_2.[9]

Here, there is only *one* level of 'embedding' at the exchange level and this is a constrained kind reminiscent of the insertion sequence. Also, the last move, mvii, is not considered as the final move of the rightmost, deepest embedded exchange as it appears to be in Berry's account; instead, it is itself a closing 'bracket' which follows the central sequence and meets the expectations set at mi. The central sequence could be extended but it would be difficult to engineer further embedding. The typical interpretation of such attempts would be of a further move exactly parallel to miii, superceding that move rather than being subordinate to it. Furthermore, the central sequence does not need to be created or extended by lexicogrammatically-embedded elliptical contributions; the contributions

Quizmaster: would you like to change your mind?
Quizmaster: would you like another guess?
Quizmaster: try again

---

9. Although this second alternative would also be compatible with the forms observed, it is clearly unsatisfactory to have this duplicity of possible analyses. Either further constraints need to be found to select between them or a less 'delicate' pair of functions needs to be introduced that is neutral between the two more refined interpretations. I will leave this question unaddressed here.

all, I take it, acceptable at miii (and at mv for that matter), are equally interpretable as new lexicogrammatical bases but would still result in the same analysis as above at the discourse-functional level. The expectation of the final $k1/ps_1$ evidently provides a sufficiently constraining force for the support of extensive thematic development in the central sequence.

As with insertion sequences, the *function* of the central sequence constrains the component moves to those that will achieve the required result. Indeed, the move at miii, i.e 'Sure?', is not in general adequately characterised as an elicitation of the truth or falsity of the proposition: 'the contestant is sure that...' at all. This can be brought out by considering slightly different situations where essentially the same discourse organisation is deployed. Consider a quiz situation in which the contestant is asked not to answer some question for which the quizmaster holds the correct answer, but to choose some particular course of action. The discourse:

Quizmaster: Well, what will you do?
Contestant: I'll take the money
Quizmaster: Sure?
etc.

exhibits the same organisation as above and can be continued in an exactly parallel fashion (with one exception: the first move is not a dk1 since only the contestant can hold the final authority on what s/he will choose to do). The continuation of the discourse with k2f.c-moves such as 'quite sure?' on the part of the quizmaster then serves the important function of giving the contestant *opportunities for repairing the move made at mii*. In this example, another course

of action could be chosen, while in Berry's example, another answer could be volunteered. This analysis would then even serve for the following situation:

[chess game in progress]
A: (moves piece to some position)
B: Sure?
A: (takes piece back and moves another)

The discourse-functional account for all of these possibilities is then

dk1 (or k2)	k2 (or k1)	k2 (or k2f.c)	k2 (or k1)
pb_1	pc_1	pb_2 (or pc_2)	pc_1'
mi	mii	miii	miv

Sure? etc.

The move at miii projects another turn-at-talk for the contestant before the exchange is closed 'irrevocably'.[10] That turn can be used for repair-work rather than for a straightforward response to miii and so the precise propositional content of miii need not be important as long as it performs the function of giving away a turn.

From this diversion we can see that the notion of elliptical embedding is by no means the creator of complex nested structures as is necessarily the case in Berry's account. Embedding serves more as a relatively weak link between successive cycles through the lexicogrammar reminiscent of hypotaxis.[11] It is readily available for building discourse contributions 'on' to those preceding, thereby creating a minimal structural unity, although, due to its weakness, it will be found below that this method is often combined with others so as to bind contributions together more convincingly.

---

11. Halliday and Hasan, in fact, distinguish sharply between genuine embedding and hypotaxis: "...reported and conditional

3.5 Nonsyntactic contributions

Finally, in addition to the above categories of ellipsis, it also appears possible to have discourse contributions which fall outside of the main lexicogrammatical actualisation scheme altogether. This phenomenon has been addressed by Richardson (1981, p55), who proposes a distinction between syntactic and **nonsyntactic** contributions.[12] Thus, for example, 'uhu' does not seem to be appropriately classed as an instance of a lexicogrammatical unit no matter how elliptical, neither, in many cases, do: 'OK', 'right', 'ehhum', or 'yeah'. These items Berry (1981b) describes as 'clause substitutes' and she accordingly assigns them to the ellipticity class in her framework which does not contribute any new lexicogrammatical material; the same 'facts of the matter' will be treated here by including nonsyntactic moves, along with repetitions, in the class of contributions which do not further propositional development: i.e. those which either have no ideational layer component or are interpretable as ps-moves.

---

12. Sinclair and Coulthard (1975, p41) draw a similar distinction. Further examples of nonsyntactic contributions occur below when 'micro-exchanges' are introduced.

---

10. Perhaps favouring, then, the pc interpretation.

---

clauses are both HYPOTACTIC but not 'embedded' (i.e. not RANKSHIFTED; it is this that is the relevant concept, since 'embedding' has not been clearly distinguished from hypotaxis in much recent grammatical analysis). That is to say, such a clause is DEPENDENT ON another clause but not structurally integrated into it; it is not A CONSTITUENT OF it.' (1976, p136) It is the former notion that has been of concern here.

Armed with this simple proposed classification of *lexicogrammatical* units with respect to the manner of their 'completeness' or 'incompleteness', I will now consider the distribution of units within discourse contributions in order to see if any discourse-level conditioned patterns occur.

4. Discourse organisation and ellipsis deployment

The most obvious place to begin examining the connections between these forms of ellipsis and discourse is in the achievement of thematic progression. Each form of ellipsis, with the exception of repetition and nonsyntactic contributions, can be seen as attempting to develop the propositions at issue in specific, narrowly-constrained ways. The nonelliptical form, or lexicogrammatical base, establishes a configuration of realisations in some way appropriate at that point. The propositional, or thematic, representation specifies both the ideational 'content' of the lexicogrammatical base and the particular way this content is being inserted into the discourse. At present I take that content to be closely tied to the lexicogrammatical forms employed and ellipsis then becomes a resource for operating upon content within a structurally defined stretch of discourse in quite narrowly constrained ways.

The 'addition' ellipsis type is the simplest in this respect since it is only serving to mark a change in speaker; the proposition being articulated in the lexicogrammatical unit is unaffected. One

consequence of this that we have seen is that if a speaker self-selects and makes a contribution which can be classified as an addition to the previous - perhaps interrupted - turn, then both turns may become part of the same discourse move. Hence, addition is one significant resource for sharing moves.

One of the principal reasons why this possibility of sharing moves is made use of appears to be that it accelerates the flow of information or of topics within the discourse while simultaneously enabling a check to be kept upon the direction of that flow. This feature of discourse is prefigured in Sacks, Schegloff, and Jefferson's (1974) proposal that each turn at talk needs to achieve some minimal conversational 'work' which brings about a three-part structure: "one which addresses the relation of a turn to a prior, one involved with what is occupying the turn, and one which addresses the relation of the turn to a succeeding one." (p722) Additions can be seen as extensions which rely upon the strong cohesive relationship imposed by lexicogrammatical unity in order to show the first speaker that some point has been successfully made, what that point has been taken to be, that the hearer accepts it, and that the discourse is proceeding smoothly along the lines intended and is ready to proceed further.

This can be summarised by extending the framework so as to transform the expected schema:

pb_1	pc_1	
k2	k1	k2f
mi	mii	miii

into the related:

pb_1	pc_1	.	ps_1
k2	k1	pk2f	k1
mi	mii	.	miii

The pk2f-function will designate a preemptive k2f, or state of knowledge following the informing achieved by a pc. Thus the 'exchange' is, in a sense, 'hurried through': the work of achieving the pc contribution is shared and the first speaker, following the preemptive k2f, needs only to support the proposition before proceeding with topical development secure in the knowledge that the point has been grasped. This is perhaps the limiting case of showing orientation to a prior utterance - the utterance can almost attempt to *be* its own prior utterance by taking over the actualisation of that turn. If this is started early enough then the preemptive contribution can become the lexicogrammatical base and the interrupted contribution is superceded.

An example of this in fact occurs in protocol segment 44A.20 which was used as the example of figure 4 in the previous chapter. When the insertion sequence of lines 4-5 has been completed, the following turns are produced.

A: Well, (1s) Tha-
B: I'm on an S box of yours?
A: you are, you are, uhu,

Now the analysis given previously in figure 4 for these turns can simply be recast as:

0	k1	pk2f	k1
	pc_1-	pc_1'	ps_1'
mv	.	.	mvi
	pre-base	base	rep

First, speaker A attempts to begin the sequentially relevanced

proposition completion but B interrupts. One set of typical symptoms of a pk2f contribution's occurrence is, then, that a pc-classifiable move 'in progress', i.e. lexicogrammatically incomplete and interpretable as a pre-base, is interrupted by a further pc-classifiable move with respect to a proposition established as being labelled k2 for the speaker who interrupts.

Another example of a contribution which serves to push the discourse forward is A's in:

B: right so I'm at the third column
A: uhu 4 up
B: yeah and ...

[P1.16]

In this case, the labelling of A's turn as including a pk2f function rests upon a *propositionally* incomplete move being 'interrupted' rather than one lexicogrammatically incomplete.[13] For such propositional incompleteness to be recogniseable it is useful to consider propositions for specific purposes to have 'preferred' forms. The deployment of the linguistic resources available - and, in particular, the discoursal resources - so as to achieve such agreed upon ways of articulating specific types of propositions will be addressed in more detail in chapter five as one consequence of the negotiation of 'particularised registers'; here, I will simply accept the *results* of this process. Thus, for example,

---

13. This is taken to be the origin of the 'uhu' in A's turn; the fact B's first move is lexicogrammatically complete makes a discourse-level interpretation of that turn as a completed *move* relevant. Such a move would be labelled 'k1/pc/m_i' and so relevances a 'k2f/m_{i+1}' follow-up. The ability of the discourse level to support multiple *sets* of 'layers' of interpretation simultaneously and to combine these into single turns is one very interesting line of future development. I will not be able to address this satisfactorily here, however.

<player X is at some position P= | column Y and Z up>

will represent the kind of proposition the participants in the game from which the last exchange was taken have agreed upon for answering questions such as 'where are you?' at that particular stage in the discourse.[14]

As a consequence of the presence of such proposition skeletons, speakers will expect certain thematic progressions and deviations from the expected progressions may be quickly drawn attention to and incompletenesses recognised. Thus, as we shall see in the protocol segment 44A.0 below, B's answer to the question 'where are you?' (line 1-3) fails to articulate the complete proposition expected by A.

1	B: well, uhm, I am on the fourth, block from the, (2s)
2	what the right or left, I can't see, hold on,
3	1 2 3 yeah, the fourth block,
4	A: uhu
5	B: Ehm, (1s) where are you? (2s)
6	A: The fourth block?
7	B: You know, fourth from,}
8	A: {O-on the bottom row?
9	B: Yeah, on-on the bottom row.
10	A: Yeah, well, I'm in 3 1, (1s)
11	B: uhu, right, OK,
12	A: That's the third one,

Protocol segment: 44A.0

Furthermore, although this segment exhibits a whole host of

14. The existence of preferred forms for this particular class of propositions in the context of the maze game has been demonstrated conclusively by Anderson (1984); chapter five will address this further.

misinterpretations and confusions and I shall return to the kinds of detailed negotiations and problems that can arise in chapter five, a very significant additional point to be made here is that the context-centred view of discourse development in no way compromises the ability of the framework to account for *divergences* in the classifications speakers make of those contexts. In this example then, such a divergence is illustrated with respect to the expected preferred forms for representing position specifications. Thus, on the one hand, B seems to begin with an expectation that all s/he need specify to complete propositional bases of the form

<player X is at position P = |

is something along the lines of

Y blocks from left>

or

Y blocks from right>

A, on the other hand, is expecting something involving both row and column along the lines of

Y blocks over on row Z>

B's first contribution meets the first part of the expectation this sets up and so exactly the same situation prevails as far as A is concerned as was the case in the immediately preceding exchange from P1.16. Here, however, A is not in a position to preempt and so must be content with the minimal acknowledgement marker 'uhu' indicating s/he is ready for the next part of the proposition. B is under the impression that not only has a properly formed and complete lexicogrammatical base been produced but also a complete proposition rendering the pc-move complete. A's 'uhu' is not, as we shall see, an

archetypal instance of a k2f-move and so B does not respond smoothly. The question, at line 5, when it does come is found by A to be completely out of place.

In short, the two interpretations of the discourse so far can be schematised as shown in figure 1.

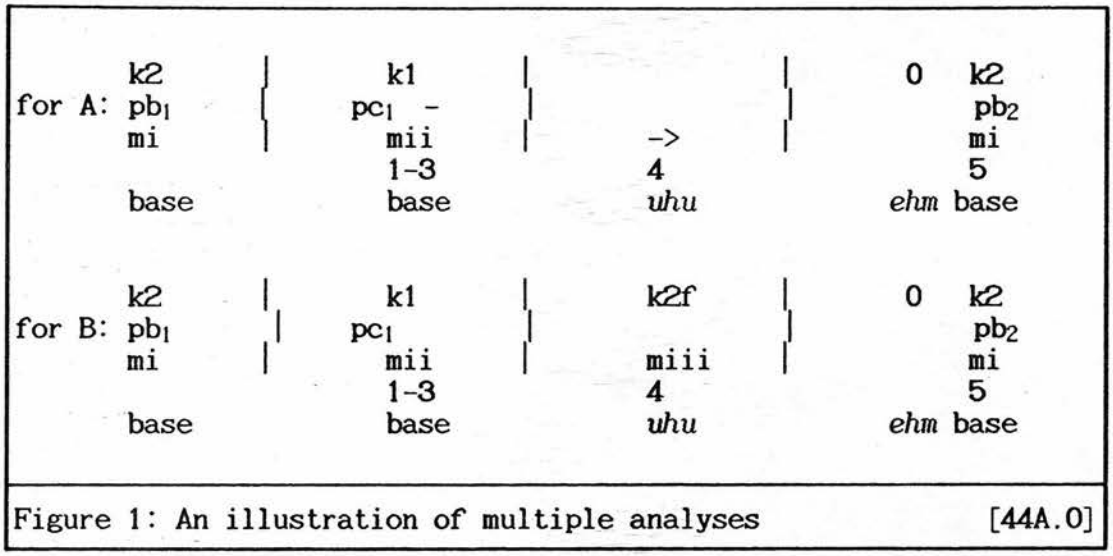


Figure 1: An illustration of multiple analyses [44A.0]

For B the discourse can be held to be, if not as free-flowing as might be hoped, at least reasonably coherent; but for A there are outstanding expectations which need to be fulfilled before a coherent discourse can be achieved, namely the completing of the pc_1 initiated by move mii.

The reason why there is no conflict between multiple analyses of this kind and the avowedly *interorganismic* level of description at which the type of linguistic analysis proposed here resides is as follows. It has to be recalled that the primary mechanism for

capturing the interorganismic potential for behaviour that situations make available to the bearers of roles in those situations is the set of networks of choice at each stratum and level within the linguistic system. However, the essential sharedness of this general potential to act is not sufficient to guarantee that any particular linguistic forms will always correspond to a unique set of choices within each level. This is because of the equally essential *context-embeddedness* of the actualisation process. Thus distinct *contextual* specifications can relevance *distinct* choices within, for example, the discourse level of form which remain compatible with a *single* selection of lexicogrammatical choices. In short, the networks represent all speakers' abstract potential and the consequences of any choice that has been made for the choices then available at other levels. But then, since each actual speaker is necessarily embedded in his/her own, more-or-less unique, particular selection from the intersubjectively-established range of potential contexts, the *same* lexicogrammatical phenomena can give rise to *different* functional classifications when the effects of the actual contexts of individuals are added in.

The resulting analyses are *nevertheless* interorganismically viable in that they are all drawn from the range of abstract potential shared among the members of a society and may hence be adopted by any speaker as necessary: because the *range* of potential behaviour is shared, divergences in interpretation can be noticed and corrected particularly effectively.[15] This is the situation in the present case when at line 6, after a long gap, A attempts to preserve

a context more compatible with his/her own prior expectations. A first then produces a 'repeat' which does not develop any proposition at issue further but which is aimed at redrawing attention to the lexicogrammatical base from which it is taken and to the proposition that lexicogrammatical base was concerned with. The turn is a standard call-for-stocktaking one and hence can be analysed for both players as

k2f.c / pc_1 / miii rep

Repetition such as this is a common resource for indicating an unsatisfactory state of knowledge following a supposedly informing move and so has the desired effect despite the slight contextual divergence. The k2f-status with respect to the proposition at issue of moves mi and mii establishes the turn as a related miii temporarily superceding B's attempted new question at line 5.

B begins the called-for repair but is again producing a contribution compatible with his/her own expectations which are at odds with those of A. From the situation as disclosed to B the only possible inadequacy in his/her reply at line 1 was the lack of an explicit statement of whether the block was fourth from the left or fourth from the right. As soon as this becomes clear, i.e. as soon as B's utterance establishes an equally divergent situation, A interrupts with a preemptive addition which displays the kind of information relevant to A's situation. B then acknowledges the

---

15. More strictly: speakers in a situation are constantly producing behaviour from within the range available; each speaker is aware of that range to the extent that deviations are recognised as such and provide evidence for operating within an altered range, hence altering the situation that holds.

proposed proposition completion as correct and A goes on to answer the postponed question of line 5. The discourse-functional analysis for these contributions is therefore, again for both players, as their temporarily divergent contexts converge:[16]

k2f.c	k1	pk2f	k1	k2f	k1
pc_1	pc_1	pc_1	ps_1		pc_2
miii	miv -	miv	mv	mvi	mii
6	7	8	9	10	
rep	add	add	*yeah* rep	*yeah well*	base

This last example and the ones preceding should have made it clear that there is now no well-formed 'sequence' of ellipticity classes (i.e. additions, modifications, etc.) being proposed comparable to the formal sets of exchange descriptions given in Berry (1981b): almost any order *could* occur. The ellipticity class of a contribution is instead to be seen as offering an indication, when considered in its discourse context, of the precise function the contribution is intended to fulfill. Thus, the correct assignment of identifying subscripts for the discourse functions pb, pc and ps, is often made by deciding which particular lexicogrammatical base the move is addressing, while the particular discourse function to be selected is significantly constrained by the ellipticity class that occurs.

However, as can be seen in the analysis of lines 7 and 8 in segment 44A.0, for example,

6 | A: The fourth block?
7 | B: You know, fourth from,}

16. Interestingly, A in line 12 restates his/her position in the format initially adopted by B, B does not understand this and as a result misinterprets A's position specification at line 10 anyway.

8 | A: {O-on the bottom row?

the addition of line 8 is *not* an addition to the developing base growing from the addition of line 7 but, instead, supercedes that addition. Yet this distinction is not at present apparent in the ellipticity class labelling and this does not make explicit, therefore, required information relevant to discourse functional labelling. This information can be included by labelling the stages a base passes through during its development.

Thus, in the sequence,

A: so if I moved up,
B: uhu, you'd be on an S box of mine,
A: uhu, and then, you wouldn't be able to move,
[44A.13]

the smooth development of the base at issue can be represented by:

$$\text{pre-base}_1 \mid \text{add}_{1.1} \mid \text{add}_{1.2}$$

Each contribution advances the base to a new state. This contrasts with the case of lines 7 and 8 above from 44A.0 in which development is not smooth because line 7's addition is not incorporated. The analysis here is:

$$\text{pre-base}_1 \mid \ldots \mid \text{add}_{1.1} \mid \text{add}_{1.1}$$

Both line 7 and line 8 address the state embodied in pre-base_1 and so are *rival* candidates for the same move rather than co-existing as parts of a move. It should perhaps be re-emphasised here, then, that these ellipticity categories are *functional* labels and not absolute identifications of the propositions or lexicogrammatical bases at issue. A sequence of identically labelled contributions, such as the '$\text{add}_{1.1} \mid \text{add}_{1.1}$' sequence just cited, therefore claims those contributions to be performing the same function (i.e. taking a base_1

to states represented as $base_{1.1}$) rather than as claiming identical content or the occurrence of identical items.

Repetitions should also be augmented in this way. In their case, however, a new state is not created; instead an orientation to some particular area of an existing lexicogrammatical base is established. Thus,

$$base_1\ rep_1$$

will signify a full repetition of the base, while

$$base_1\ rep_{1.1}$$

will signify some particular part of the base. In addition, an area can be picked out by name; for example,

rep [pol]

will be used to signify that it is the polarity of the lexicogrammatical base that is being repeated. This occurs in questions of the form:

A: Right, I'm totally boxed in
B: you are?

which will be discussed below.

Modifications can be labelled in an exactly analogous manner; for example, had the above exchange been

A: Right, I'm totally boxed in
B: are you?

the second contribution would have the classification:

mod [Q]

indicating that question syntax had been imposed. Similarly, had B's response been 'you aren't', then the classification would have been:

mod [pol].

Similarly, the lexicogrammatical base category can be specified further to indicate particular details of the lexicogrammatical actualisation that are relevant. It should be remembered, however, that this technique is only to be adopted as a shorthand notation in the absence of a complete specification of the lexicogrammar; given that specification actual feature choices would be used to capture the information here informally picked out by name.

One useful specification of this kind is Berry's distinction between question syntax (Q) and nonquestion syntax (S); here I will base this *entirely* upon syntax however, and will not admit 'rising intonation' as relevant. Thus the contributions:

you can't go to the left either?	[44A.3]
and not bother changing you?	[11F.9]
you know how there's there boxes	[P1.0]
so you are now sort of 4,	[P1.4]

will all be classified as

base [S]

regardless of the fact that they clearly function unambiguously for both players as questions in their respective situations of use. This permits a simple correspondence to be set up between base [Q] and base [S] classified contributions, or sequences of contributions, and pb- and pc-classified moves respectively. Both pb and pc require an established lexicogrammatical base for their moves to be considered complete and a base-contribution trivially provides this.

The lexicogrammatical layer of the description of segment 44A.0 that was used to illustrate multiple analyses and as given in figure

1 above can now be rewritten as follows:

	1-3	5	6	7
$base_1$ |	$base_2$ |	*ehm* $base_3$ |	$rep_{2.1}$ |	$add_{2.2}$ |

8	9	10
$add_{2.2}$ |	*yeah* $rep_{2.2}$ |	*yeah well* $mod_{3.1}$ [S]

The additions at lines 7 and 8 are oriented towards the particular area of actualisation in need of repair by the focusing operation achieved by the repetition at line 6; this is reflected in their labels by incrementing the label of the repeat not the base. This notation thus permits a general distinction to be drawn between those pk2f-contributions which are used for agreement and to develop the discourse in the direction the k1-role bearer is proposing, by incorporating a set of lexicogrammatical choices, and those which propose their own direction, attempting to supercede the move that is interrupted or preempted.

The sequencing of types of elliptical contributions in this segment 44A.0 can now be shown to relate quite simply to the manner in which the thematic progression occurring throughout the segment is being achieved. Thus, the first contribution, as at least the beginning of a lexicogrammatical base,

1	B:	well, uhm, I am on the fourth, block from the, (2s)
2		what the right or left, I can't see, hold on,
3		1 2 3 yeah, the fourth block,

can be put into a correspondence with a propositional description paraphrasable as:

<B is at some position P = | the <u>fourth block...</u>>$_2$

The thematic segment of the proposition was given by the preceding question. As described above, a comparison with the expected thematic

progression at this point in the discourse gives different discourse functional classifications for the two players, i.e. a completed pc for B and an incompleted pc for A. The propositional development at the outset of line 5 from the perspective of each of the players is then:

for A: <B is at some position P = the 4th block | ____ >$_2$
for B: <B is at some position P = the 4th block >$_2$

A is awaiting further development which B noticeably fails to provide when the unrelated base of line 5, "where are you?", introduces the proposition:

<A is at some position Q = | <u>where</u> >$_3$

The repetition at line 6 refuses to leave the unresolved proposition and places proposition 2, with the expectation that some work is still needed, back at the centre of the discourse.

6 | A: The fourth block?
7 | B: You know, fourth from,}
8 | A: {O-on the bottom row?
9 | B: Yeah, on-on the bottom row.

B attempts to perform that work but is misled by his/her preconception concerning its nature; B's 'you know' can be seen as supporting a description of that preconception of the form:

<player X is at, from the left, position P = | the Yth block>

i.e. the direction in which the counting of 'blocks' is to proceed is not really at issue, it is established as part of the theme of requests for positions. B nevertheless attempts to make it explicit since there is little else over which a problem could have arisen.

The moves of lines 6 and 7 are then described as follows:

6 rep$_{2.1}$:<B is at some position P = <u>the 4th block</u>$_{2.1}$ | ... >$_2$

7 add$_{2.2}$:<B is at some position P = the 4th block |

from the ... >2.2

A rejects this proposal of rheme and substitutes one compatible with his/her own preconceptions of what is required of a position specification, i.e.

8 add2.2:<B is at some position P =,
[from the left], the 4th block |
on the bottom row >2.2

B accepts this by means of the repeat:

9 rep2.2:<B is at some position P =,
[from the left],
the 4th block on the bottom row >2.2

and the proposition is completed, leaving A free to take up the third proposition with its expectation establishing 'where'.

There is a close link to be observed, therefore, between the ellipticity class adopted and the effect that is had upon thematic development. This effect may be summarised as follows:

base: a new proposition is proposed;

add: an already proposed proposition, or proposition part, is extended;

rep: no new propositional development occurs, instead particular orientations to proposed propositions, or proposition parts, are proposed;

mod: an already proposed proposition has some part retracted and respecified.

In the analyses below, then, these classifications of lexicogrammatical cycles will be appealed to throughout as a significant set of informal guidelines for assigning and justifying

discourse functional labelling.

5. The discourse functions of tag questions

In section 3, in the introduction to the embedding category of ellipsis, we saw a proposed discourse-functional analysis which contained a different ordering at the ideational layer than that encountered previously. The analysis was of Berry's example:

1 A: is it six o'clock yet?
2 B: yes
3 A: is it?
4 B: yes

(1981b, p6)

and ran as follows:

k2	k1	k2f	k1
pb_1	pc_1	pb_1	ps_1
1	2	3	4
base	mod	rep	rep

Distinctive about this analysis is the characterisation of the move at line 3, in which the micro-function conflation:

k2f / pb

appeared relevant. Now, it was not possible to generate contributions such as this under Berry's original account, and it is possible to show that speakers often make far more flexible use of the discourse resources available than Berry's account suggests. As was suggested in the previous chapter, many of these 'deviations' in fact provide a useful means of incorporating contributions into the natural flow of the discourse and of binding that discourse together into tightly-cohesive units. This section will illustrate this kind of use with particular reference to the discourse function of tag questions and some related forms, all of which may now be readily accommodated

in an illuminating way.

Examples of the forms of 'questions' that will be at issue here at first are:

(1) B: it's your move, isn't it?
A: yeah, well...
[11D.5]

(2) B: I won't change anything, will I?
A: No
B: Right, now hold on...
[44A.20]

(3) A: Well that's not much good is it?
B: Well look how ...
[P1.24]

(4) A: This is it, is it?
B: uhu
A: The big finale
B: This is it ...
[44A.28]

(5) B: Wh- you're at the very top, are you?
A: No, I'm one down from the top
[11F.9]

In each of these the relevant 'questions' were given rising final intonation.

5.1 Interrogative tags

The first three conform to the standard format for tag-questions where the polarity of the appended question is the reverse of that in the main clause. The tag question is also elliptical with respect to all but the polarity of the main clause; in fact, with lexical ellipsis within the verb group (i.e. ellipsis where the main verb is presupposed) polarity cannot fail to be expressed[17] and typically the tag explicitly selects polarity to

repudiate that of the clause it presupposes. This repudiation means that the tag element cannot be classed as repeat ellipsis but, instead, must be seen as modification. Also, the syntax of the tag becomes that of a question and so the ellipsis specification of the clause-tag sequence can be described as:

$$base_i \quad mod_i[pol, Q]$$

The discourse-functional specification of the second component, i.e. the tag itself, is therefore pb/k2.

The function of the tag, however, is to call for the addressee to support the proposition at issue. That is, if the discourse-functional specification of the first component of the tag-containing contribution is pc_i/k2, then the called for support would be of the form ps_i/k1. But a follow-up such as this would be expected anyway without the intervening tag: what, then, does the tag contribute?

It is clear that the usual use of a tag question occurs in situations where the speaker is either already quite confident of the outcome or is displaying a former confidence perhaps made problematic. In (1) above, the question is almost serving as a prompt for the other player, drawing the attention of that player to something that is equally available to both players. In (2), strictly speaking B cannot *know* that his/her move will not change the other player's situation but the discourse so far had given B good grounds for accepting that this was, in fact, the case. In (3), the

---

17. Halliday and Hasan (1976, p176).

tagged-contribution functions as a negative evaluation of B's proposed move and so B does not 'answer' the tag at all but, instead, goes on to propose an alternative.

With these considerations in mind I will take the tagged contribution to indicate that the proposition at issue is being treated as 'already known' by the speaker; i.e. the speaker is displaying a k1-role concerning that proposition rather than the more strictly appropriate k2-role. Since this is a dispreferred option for B-events[18] unless there are some specific social role relationships to support it, the speaker also prepares an opportunity for his/her addressee to support (positively or negatively) the proposition at issue, thus leaving the 'final stamp of authority' with the participant for whom the proposition at issue genuinely denotes an A-event. This is also supported by the fact that the use of tag questions for confirming the sharedness of B-events with respect to the speaker is still not as common as their use for AB-events and simple evaluative comments such as:

B: it's like chess isn't it

[38A.34]

In these cases the establishment of a proposition at issue to which *both* participants bear a k1-role is entirely appropriate.

The tag question achieves this as follows. First, the polarity of the lexicogrammatical base that has been proposed is modified, giving rise to a modified proposition. That modified proposition is then made the base of a polarity-seeking question. The speaker adopts

---

18. See: Labov (1972, p124) and chapter two.

a k2-role towards this proposition, thereby declining responsibility for development at that point, and so calls for the next contribution to reflect a k1-role. This gives a discourse-functional specification of the turn containing the tag of:

pc_1	$pb_{1.1}$
k1	k2
mi	mii
$base_1$	$mod_{1.1}$[Q,pol]

The straightforward answer to the question at mii is a $pc_{1.1}$/k1 and this can be either positive or negative; that is, it can be either a $mod_{1.2}$[S] or a $mod_{1.2}$[S,pol], depending upon whether the polarity proposed in the propositional base is accepted or modified. In the former case, the contribution is equivalent to a $mod_{1.1}$[pol]; in the latter, it is equivalent to a $rep_{1.1}$[pol]. But these are typical manifestations of ps^- and ps^+ containing moves respectively and so the answer to a tag can be described as:

either	$pc_{1.1}$		ps^-_1
	k1		k1
	$mod_{1.2}$[S]	=	$mod_{1.1}$[pol]

or	$pc_{1.1}$		ps^+_1
	k1		k1
	$mod_{1.2}$[S,pol]	=	$rep_{1.1}$[pol]

Thus achieving a discourse sequence of the form:

pc		pb		pc		ps
k1	(	k2	|	k1	=)	k1

and a successful sharing and confirmation of sharing of the proposition at issue.[19]

---

19. Similar to this are those cases where the tag is given falling intonation; these suggest that the sharedness of the proposition is not at all controversial and the adoption of a k1 role by both speakers is warranted. The sequence is then: [pc/k1, pb/k1, ps/k1], and the question verges on the rhetorical.

It is interesting that a single move can display all these functions nad this again suggests the utility of providing for multiple sets of discourse functions as was mentioned in passing above. the construction of a single turn from distinct discourse function sets appears to be achieved here by the deployment of the lexicogrammar according to the pc-function and the intonation according to the ps-function. Typically, a ps^{+}-contribution will have noncontrastive intonation compared to the contrastive intonation of a ps^{-}-contribution and this choice is displayed in the 'answers' to tags.

Furthermore, the pc_i-function of the tag-answering move might suggest the possibility of a subsequent actual ps_i in *addition* to the parallel ps. This may be what has occurred in the following, where the conflation of the answer to the tag and the support for the tagged proposition has failed to be achieved:

A: uhu and then you wouldn't be able to move would you? no?
B: No I wouldn't be able to move,

In this case B gives a full unreduced repetition of A's original tagged question, again a standard way of supporting a proposition.

This example can be analysed as above until A preempts B's answer with 'no?'. As we have seen, this interruption of a prospective, or in progress, pc/k1 contribution predicts a follow-up supporting contribution for that proposition. B supplies this with 'no' but this can no longer be conflated with the preceding

pc-contribution to give rise to the called for support for A's original proposition because that move has already been completed. Hence B has to supply that support explicitly. The discourse-functional specification for this sequence is then:

	pc_1	$pb_{1.1}$	$pc_{1.1}$	$ps_{1.1}$	ps_1
	k1	k2	pk2f	k1	k1
->	mi	mii	miii	miv	mv

	$base_1$	$mod_{1.1}$[pol,Q]	$mod_{1.2}$[S,pol]	$rep_{1.2}$	rep_1
uhu		*would you?*	*no?*	*no*	

Normally, what here occurs at mv would have occurred 'implicitly' at miii, but A effectively blocks this; a ps/pk2f-contribution is not a good candidate for a move in most contexts.

When the conflation *is* achieved the motivation for an additional distinct follow-up ps is largely removed. On the one hand, if the addressee supports the tagged proposition, then the two propositions at issue have merged and the support of one is the support of the other. On the other hand, if the addressee does not support the tagged proposition, then the entailed ps^-_i predicts a following pc_i modifying the proposed proposition and this automatically provides a ps^+ for the proposition created by the tag. The full ideational layer sets of discourse functions for the second case could therefore be represented by:

pc_1	pb_1·	$pc_{1.1}$	$ps^+_{1.1}$
		ps^-_1·	pc_1·

The last two moves cannot be conflated further since a pc and a ps relative to a single proposition require distinct moves.

5.2 Declarative tags

Returning now to examples (4) and (5) above, these can be seen to differ from (1-3) in that the appended question is of the form

$$mod_i\ [Q]$$

that is, the polarity is not affected. In these cases, there seems to be no strong suggestion that the proposition had been shared previously in the discourse and so a k2 role with respect to that proposition is appropriate for the speaker. One immediately possible function is then suggested by the description:

$$\begin{array}{ll} pc_1 & \quad pb_{1.1} \\ k2 & \quad k2 \\ base_1 & \quad mod_{1.1}[Q],\ rep_1[pol] \end{array}$$

This is another way of initiating a repair; the first move proposes the proposition at issue while the other picks out an area to use as a repair origin. Thus, one can envisage a maze game situation in which a player attempts to move out of turn and the other player responds: 'it's your turn, is it?', thereby drawing attention to the repairable behaviour - linguistic or otherwise. However, I have not encountered examples such as this in the protocols I have examined.

Another possibility is that the k2-role selected for the first move is a k2f- or pk2f-role rather than a simple k2. This fits example (4) well and again illustrates the flexibility that the discourse resources provide. Example (4) is taken from the very end of that game. A has just moved into his/her goal and prior to that B had said that s/he was one away from his/her goal. Thus, when A takes the first turn s/he is relying upon B's previous claim to be one away

from the goal since this would mean that the next move to be made would be the last of the game. But only B knows this for sure and so A is justified in accepting a secondary knower's role. However, there is not really any doubt that the game is about to end so A can be sufficiently confident to be able to show a preemptive following state of knowledge and then to give B an opportunity to support it. It is also up to B to show that the final move has, in fact, been made and the game has been brought to a successful conclusion; A is therefore helping to make a turn-at-talk available to B for that report to come. When B only supports A's state of knowledge, A goes further and, by a minor modification to the proposition at issue, gives B another turn in which, after again supporting the modified proposition, B then reports having made the necessary move. It is interesting to note that B's final 'This is it' displays support not only for the modified proposition but also the original proposition by repeating the same choice of words; this achieves an extremely tight cohesively-bound sequence of contributions.

The discourse-functional organisation of (4) is then:

pc_1	$pb_{1.1}$	$pc_{1.1}=ps_1$	$pc_{1.1/1.3}$	$ps_{1/1.3}$
pk2f	k2	k1	k2f.f	k1
mi	mii	miii	miv	mv

$base_1$	$mod_{1.1}$[Q]	$mod_{1.2}$[S]	$mod_{1.1/1.3}$	rep_1
this is it	*is it*	*uhu*	*the big finale*	*this is it*

Again the straight-forward sequencing of discourse functions has been deviated from in order to achieve the precise consequences required: the pk2f-contribution has been brought before the k2 that would have given rise to it and the pb-contribution has accordingly been placed

following its related pc. In addition to B's simultaneous support of both of A's forms of the proposition at issue at mv, the choice of a simple 'uhu' at miii displays that mii can be considered a pb_1 for which the corresponding pc_1 has already occurred: thus B has again shown that s/he accepts that really there is only one proposition at issue.

Example (5) can be analysed in precisely the same way. The initial 'wh-' of B's first utterance, beginning the question 'where are you', is abandoned and the proposed answer is put in its place. This still leaves B with the job of turning the contribution into a preferred form for a question and so the prerequisite pb is tagged on. In this case, however, A provides negative support and so follows this with the expected modified proposition. The analysis is,

pb	pc_1	pb_1		ps_1	$pc_{1.1}$
k2	pk2f	k2		k1	k1
mi-	mi	mii		miii	miv
wh-	$base_1$	mod[Q]		*no*	$mod_{1.1}$

5.3 Micro-exchanges

A superficially similar organisation to the above tag question cases that frequently occurs is illustrated in the following examples:

B: So you're on the 1- the the, upper, the- the uppermost row, right?
A: Yes
B: And ...

[44A.24]

A: ...right you're in, 1 2 3 4 5 down and 2 along, right?
B: uhu

A: I'm gonna move...

[38A.41]

This organisation may also be assimilated with the discourse level account as follows.

As opposed to the above examples, in cases such as these the primary speaker is typically involved in the articulation of a complex collection of propositions and provides occasions for the hearer to acknowledge that the development so far has been grasped. Although the propositions above tagged in this fashion denote k2-containing moves the pattern occurs equally with k1-containing moves; for example:

B: If ehm, if you move, up, one, and then up, another time, you'll hit an S, an S ehm, gate for me, OK?
A: OK,
B: So, un- unless...

[44A.2]

B: I'm moving back, OK?
A: Great yeah uhhum

[P1.22]

A: I'll just go straight up, {right
B: {right uhu

[44A.27]

The speaker can also achieve a similar effect by leaving a pause at an obviously incomplete stage in the propositional development. The hearer typically responds as above; e.g.

A: Well you see, (1s) if I go up one,
B: uhu
A: to, 3 3

[44A.7]

The possibilities here range from the provision of straight-forward spontaneous back-channel contributions from the hearer,[20] through back-channel contributions brought about by the speaker's genuine hesitations and back-channel contributions implicitly elicited by

deliberate pauses, to explicitly called for contributions in response to items such as 'OK?', 'right?', etc. Common to all of these is the fact that the floor remains with the speaker and the hearer's contribution is not normally regarded as floor-claiming. If the hearer wishes to disagree or to indicate that there are problems to be resolved the design of the turn selected resembles that of an interruption or, if the primary speaker was explicit in his/her offering of the floor, an insertion sequence.

I will distinguish types of possibilities as follows. Cases where an explicit progress-check elicits a response from the hearer will introduce 'micro-exchanges'. These mirror the sequencing resources discussed so far for exchanges and, in fact, could be seen as arising from conventionally elliptical questions. Their discourse characterisation is of the form:

pc [pc	ps	] pc	
[k2	k1	k2f] k1	
mi [mi'	mii'	] mi (cont'd)	
OK?	OK		
etc.	etc.		

The function of the micro-exchange is to provide an explicit occasion for repair which raises the hearer's response to the status of an actual conversational move. The primary speaker can then utilise the predicted k2f-slot to continue his/her extended turn, thereby

---

20. See, for example: Yngve (1970, p568). It is widely accepted that in the speech event of conversation there are (at least) two channels of information open; the main channel contains the current speaker's utterances, while the back-channel carries the addressee's supporting gestures, remarks, etc., which do not directly contribute to the discourse but instead signal to the speaker that the speech event is proceeding satisfactorily.

overruling and presupposing a k2f with respect to knowledge of the hearer's position. This contrasts with cases where the hearer volunteers support. The back-channel contributions there will not be considered to occupy conversational moves but, instead, will be 'passes', represented thus:

pc		.
mi	->	mi (cont'd)
	uhu etc.	

The motivations for the production of contributions such as this are well discussed by Schegloff (1982); to summarise his conclusions, these contributions act both as 'continuers' (1982, p81), which indicate that the primary speaker is accepted as being in the midst of an extended 'turn', and as indications that an opportunity for initiating repair is being passed (*ibid.*, p88). There is a sense, then, in which the back-channel contribution proposes an implicit k2f.f, i.e. it indicates that the discourse is proceeding satisfactorily and that the primary speaker can continue with thematic development.

It appears possible for speakers to use their selection of back-channel responses for a variety of purposes. Schegloff, for example, suggests

> 'that the availability of a range of tokens may matter less for the difference of meaning or usage between them (if any) than for the possibility thereby allowed of varying the composition of a series of them. Use in four or five consecutive slots of the same token may then be used to hint incipient disinterest, while varying the tokens across the series, whatever tokens are employed, may mark a baseline of interest.' (1982, p85)

A further use seems to be to attempt to project an imminent turn-at-talk for the hearer; the primary indication of this is an increase in the tempo of delivery of the continuers and again, possibly, a selection of a single token for repetition. This may be captured by proposing that there is an attempt to render the implicit k2f.f explicit and, therefore, to achieve a conversational move which may then interact with move expectations. Thus, in the opening segment from protocol P1 below where player B is determined to take the initiative, we can see that A's initial attempt to specify his/her position is immediately criticised by means of a side sequence in lines 9-10.

```
1  | A: ...see how there's a box jutting out
2  |    on the right hand side of the s{creen
3  | B:                                {yes
4  | A: Well, uh, there's a column before that
5  |    you know
6  |    w{ell nearly full column right}
7  | B:  {yeah                         {yeah yeah
8  | A: I'm on the bottom one
9  | B: Well well just call them columns OK every-
10 | A: OK OK, OK right so ...
```

Protocol segment: P1.0

Also indicative of B's wish to lead the discourse are the very early response at line 3 and the interpretation of A's 'you know' at line 5 as initiating a micro-exchange when it could as easily be ignored as a pause-filler. A then also adopts the rapid repetition strategy at line 10 to wrest a turn back from B. Both B's latter 'yeah's at line 7 and A's 'OK's can therefore be given a

k2f.f / mii

interpretation, rather than a simple pass and the general expectation that a k2f.f-contributor has a right to a turn can be allowed to operate.

5.4 Newsmarks

One additional set of related contribution sequences can now also be motivated in terms of the distribution of discourse functions they exhibit. Although members of this particular set are not so frequently represented in the maze game protocols, Jefferson (1981) has discussed such sequences in some depth; the talk trajectories she describes will therefore serve as the basic data for which an analysis will be provided.

The sequences are lexicogrammatically similar to the tag cases discussed above but have the initial pc-classified contribution and the focusing follow-up pb-contribution distributed *across consecutive turns*. This alters the function of the follow-up pb quite substantially; whereas before the pb fundle served as a tag, when it is produced by another speaker it serves instead as a 'topicaliser' which guides subsequent discourse development. Such topicalisers Jefferson terms newsmarks and she defines these as "objects which specifically treat a prior turn's talk as 'news' for the recipient rather than merely 'informative'." (Heritage, forthcoming.b, p48:fn14) Examples are turns such as 'Really?', 'did you?', 'oh you did?', 'you are?', etc. Although such turns might appear quite emphatic topicalisers and might be thought always to display a

willingness of the second speaker to participate in the topic talk as initiated, Jefferson in fact notes the following co-occurrence of type of newsmark and talk trajectory.

Turns such as 'oh really?' occur in sequences of the form "(1) news announcement, (2) 'oh really?', (3) re-confirmation and (4) assessment (which is generally terminal or topic-curtailing)." (Heritage, *ibid.*) Turns such as 'oh did you?', 'oh you did?', etc., i.e. "'oh'+partial repeat", occur in sequences where slot (3) or (4) contains further talk or solicitations of talk on the news rather than the termination of its discussion. Turns such as 'did you?', 'are you?', etc., i.e. free-standing partial repeats with interrogative syntax, occur in sequences where there is a stronger commitment to the discussion resulting in an acknowledgement at slot (4), rather than an assessment, and a voluntary continuation of talk on the news at slot (5). And finally, partial repeats with declarative syntax act either as do turns such as 'oh really?', i.e. as topic-curtailing, or project a disagreement at slot (4). Each of these trajectories can now be motivated from a consideration of the constraints so far proposed at the discourse level of organisation.

The first thing to note in the demonstration of this is that 'oh' regularly occurs as a manifestation of the discourse function k2f; this is compatible with Heritage's (forthcoming.b) analysis of 'oh' as a "change of state" marker. As he argues, an occurrence of 'oh' does not promote further talk on the topic at issue itself and this can be seen to correspond well with the terminal position of k2f

in Berry's layer of exchange structure.[21] Then, in combination with a newsmark, the raising of the status of the information that is given to 'news' can be interpreted as an adoption and re-emphasis of the k2-role the speaker bears with respect to that information. This is captured by a conversational move which simply reaffirms that role and results in the following discourse organisation for slots (1) and (2) when an 'oh really'-type of topicaliser is employed:

pc_i		
k1	k2f	k2
mi	mii	
news	*oh really?*	

The additional k2f fundle can be viewed as, in a sense, already accepting the relevance and importance of what was presented even before further development.

The general resources of the discourse as described thus far then make the following two predictions. First, the k2-role projects a necessary subsequent k1-role and a possible k2f; and second, the pc_i-function makes the most simply available function in that layer a $ps_{\$i}$. The ps_i can only be conflated with the k1 and so the continuation of the talk projected is

ps^+_i	
k1	k2f
miii	miv

giving rise to the slots (3) and (4) Jefferson has observed: the normal realisation of a k1-move is nonrising-terminal intonation, while that of a ps-move is either a repeat or a minimal confirmation or denial such as 'yeah' or 'no'.

---

21. Especially, as will be suggested in chapter six, when it is deployed in the early stages of topic generation.

The 'oh' plus partial repeat case has a slightly different discoursal characterisation in that the repeat introduces a further pb or pc-function more directly analogous to the tag cases discussed above. Interrogative syntax has been regularly associated with the pb-function, declarative with pc: thus, the second part of slot (2) then contains either a pb- or a pc-function in addition to its k2. In both cases a k1/ps-move is projected for slot (3) and, in addition, the speaker at slot (3) has the option of following up the development the pb- or pc-functions initiate. Both pb_i and, because of there already having been a k2f with respect to a pc_i at slot (2), pc_i make available the function pc_i at the second part of slot (3). Then, since the second speaker has his/herself carried thematic development beyond the k2f, thereby displaying an orientation to talk on the topic, this can become a pc_j, that extends discussion in a thematically relevant way. If, however, the speaker at slot (3) fails to take this option immediately, at slot (4) the speaker can attempt to hasten its acceptance by explicitly offering a $k2/pb_j$ or $k2/pc_j$ move, thus giving rise to a further talk solicitation.

The most interesting cases are the final two, for whereas the distinction between interrogative and declarative syntax turns out to have little effect in the previous example, it appears to have dramatic consequences when the 'oh'-item is not present. The discoursal characterisation accounts for this as follows.

The case of free-standing partial repeats with interrogative

syntax at slot (2) is quite straightforward. The turn at slot (2) may be classified as a k2/pb_i-move and, as before, this projects a ps_i-function for slot (3) and a pc_j-function for somewhere after slot (3). Furthermore, the lack of a k2f-function with respect to pc_i at slot (2) makes it appropriate for the speaker to provide one at slot (4) giving rise to an acknowledgement which should not be topic-curtailing because of the outstanding expectations of the pc_j-move. The discourse characterisation can therefore be represented as:

pc_i	pb_i	ps_i		pc_j
k1	k2	k1	k2f	k1
mi	mii	miii	miv	mv
(1)	(2)	(3)	(4)	(5)

However, when a *declarative* partial repeat is given at slot (2), the situation is quite different. In the case where slot (4) is topic-curtailing, it can be noted that there are no discourse expectations outstanding and so curtailment is quite appropriate. The characterisation here is:

pc_i	pc_i	ps_i	
k1	k2	k1	k2f
mi	mii	miii	miv
(1)	(2)	(3)	(4)

The pc_i-move at slot (2) cannot project a pc_j continuation because there has been no prior k2f with respect to pc_i to indicate that topical development may proceed. Furthermore, a simple k2 is not the only possibility and Berry's dk1 finds a useful application in this case. Its primary effect here is to propose a reassignment of knowledge roles with respect to the information at issue. I should note that this option was *not* available in the previous occurrence of

a k2/pc-move, i.e. in the 'oh' plus partial repeat with declarative syntax case, precisely because of the presence of the k2f-function; this function entails acceptance of the way the knowledge roles have been allocated and so a proposed change would require very much more conversational work. Thus, since the dk1-function predicts not only a following k2 but also a subsequent k1 where the full authority of 'someone who knows' is exerted, the discourse characterisation of the disagreement case may be represented by:

pc_i	pc_i	$ps^+{}_i$	$ps^-{}_i$	pc_j
k1	dk1	k2	k1	k1
mi	mii	miii	miv	mv/mi
news	repeat	re-confirm	disagreement	

The move in which k2 and ps are conflated should be a highly dispreferred choice. Normally it is only the 'knower' who has the right to support the information being shared but the change of roles at slot (2) upsets this. Thus, it is quite predictable that "you did?' may project disagreement and, in projecting disagreement, may license 'paranoid' responses" (Heritage, forthcoming.b, p51); to be asked to support something which one does not have the right to support provides a good incentive for changing one's ground, as the following example cited from Jefferson demonstrates:

(1) A: Derek we have no *hea*::t.
(2) D: Yih have no hea:t?
(3) A: We, can't *feel* any.

In which, at slot (3), presumably to avoid having to offer a k2/ps-move, A retreats from the former claim and so at least accepts the possibility that a change in knower-role allocation is warranted.

This section has suggested, then, three principal additions to

the discourse level framework. First, the sequence [pc_i pb_i] may be used (either within a single turn or across consecutive turns) to point subsequent discourse development in a quite specific direction; the pc-fundle typically includes either a k1 or a pk2f at the interpersonal layer depending upon the status of the proposition at issue at that point in the discourse. Second, assessing a contribution with respect to distinct propositions can justify distinct discourse function labels that apply simultaneously - *any* of which may be used subsequently to construct further turns. And third, interaction can be facilitated by variously 'bracketted' sequences that mirror the usual discourse organisation on a smaller scale, e.g. by micro-exchanges.

6. The discourse functions of anaphora - focus reinterpreted

Berry, following Sinclair and Coulthard and other exchange structure theorists and as can be seen in the possibility of complex recursive structures within the exchange, has usually placed the exchange at quite a high-level in discourse organisation. An exchange can, in such frameworks, end up covering an extremely extended stretch of discourse. The direction I have taken here, however, moves more towards the fine details of interaction and the removal of complex recursive structure. Conversation, under this view, is more concerned with the ongoing achievement of interaction on a move-by-move basis and my discussion of anaphora in this section, therefore, will investigate the possible role of certain choices of pronominal forms of reference with respect to that ongoing

achievement. Although the types of anaphora that occur in the highly constrained discourse domain provided by the maze game are extremely restricted in number, the use of the third person forms is not simply predicted and, in fact, offers a conveniently delimited and yet highly revealing domain of inquiry. In particular, the usual kind of analysis in this area now rests upon a treatment in terms of 'focus' but I will now demonstrate that an examination from the perspective of guiding interaction can be equally revealing.

Perhaps the most straight-forward contribution to the interpretation of the reference forms at issue here is the pragmatic delimitation of the *type* of entity concerned. This has been discussed, from quite different perspectives, by Webber (1979) and Yule (1979). Thus, in the contributions:

that's an S box of mine	[44A.13]
is it the only way you can go	[44A.13]
it doesn't change any of my barriers	[44A.1]

one can be reasonably sure that the entity/process to which the relevant pro-form in each case is referring is: a position in the maze, a direction in which to move, and a move respectively. This information is given by the proposition predicated of the pro-form rather than by the pro-form itself.

The question must then arise as to whether there are further constraints which permit the narrowing down to a particular antecedent of the required type. Is it conceivable that there is nothing more complex occurring than a matching against possibilities with no further guidance from the context or the discourse history? I

will examine instances of these reference forms in the protocols in order to throw some light on this issue. First, I will consider 'that', then 'it', and finally the interaction between the two and some other related forms and usages. I will proceed by giving the discourse-functional characterisations of the environments in which the reference forms occur in order to see if any general co-occurrence relationships can be established.

6.1 The discourse role of 'that'

The sequence below from protocol segment 38A.31 offers a good place to start and presents no problems for the discourse-functional characterisation, which is set out in the usual manner in figure 2. The sequencing here can be seen to accord well with the simplest recognised discourse development. There are no functions 'out of sequence' and the individual 'pb-pc-ps' progressions are chained together neatly. (The entire sequence is, in fact, a response to A asking 'where's your nearest S?' which, as a '$pb_2/k2$', renders moves mi and mii a pre-answer sequence.)

1	B: Well, I'm, at the moment, where I am,
2	I'm, four down, and three along, (1s)
3	A: four down, (1s) {and three along
4	B: {and that's a special square of mine,
5	A: well I'm nowhere near that,
6	have you got a special square,
7	anywhere in the top two rows?
8	B: yeah,
9	A: where?
10	B: ehm, two down, and three along,
11	A: two down three along,
12	right I can get into that just now, ...

Protocol segment: 38A.31

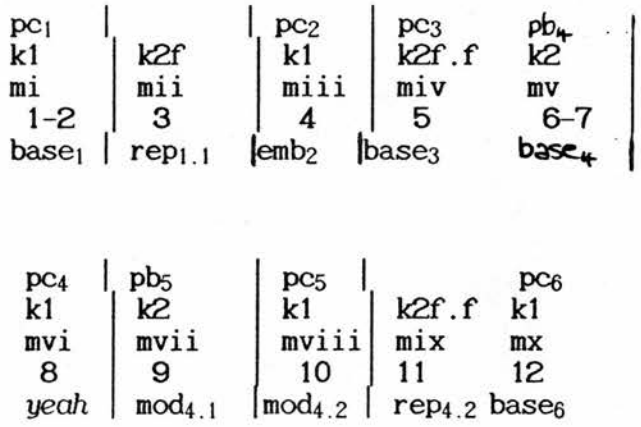


Figure 2:
Discourse-functional characterisation of segment 38A.31

The first two instances of 'that', in lines 4 and 5, are coreferential and both anaphorically specify a position in the maze, namely the position which is shared in lines 1-3. I noted above that the 'embedding' class of ellipsis was the weakest of all, equivalent to a lexicogrammatical base apart from being linked hypotactically or cohesively by conjunction with a preceding base. It is then

appropriate that the bond with the preceding discourse should be made stronger in B's contribution in line 5 by the deployment of the anaphorically cohesive reference item 'that'. Furthermore, in the k2f.f-contribution at line 5, A chooses to do more than just acknowledge receipt of the information; indeed, in this position it would be odd not to continue with a further contribution of some kind. A needs to express that the position forwarded by B is of no use for A's prospective move since what is required is a 'special square' that is near to A's position not B's. Lines 6 and 7 can, then, be seen as a repair of A's original, and misleading, question. Line 5 prepares the ground for a retry of that question by closing the sequence of moves mi-miv; player A displays understanding of the information given so far and makes it clear that this is of no help. Again, the use of the backward-looking reference item 'that' is entirely appropriate for binding the sequence mi-miv into a cohesive whole which is about to be superceded. This illustrates a possible 'topic-curtailing' use of conversational moves of the form 'pc/k2f.f' anologous to moves we saw above in relation to newsmarks; this function also would be expected considering the 'term defining' role of 'pc/k2f.c' contributions demonstrated in the next chapter.

The occurrence of 'that' in line 12 is in a discourse-functional environment analogous to that of miii and again refers to a position. B has answered A's revised question at mv and so it falls to A to display understanding of that answer and to continue the discourse in an appropriately responsive fashion. The position forwarded by B is, this time, not to be disregarded but used

in the game and, by means of the anaphoric cohesion made available by 'that', A can display that the discourse-continuation being proposed is making use of B's information.

One function that 'that' is serving in such cases can be simply stated in terms of the theme-rheme articulation of the propositional content I introduced above. Whenever a sequence of 'that's is used it first forms the thematic segment of a new proposition at issue picking out the rhematic segment of the previous proposition and then maintains this theme over several propositions. For example, the propositional development achieved by lines 2-5 of protocol 38A.31 can be represented as follows.

	<B is somewhere	4 down 3 along>
->	<4 down 3 along	is a special square of B>$_2$
->	<4 down 3 along	is somewhere that A is nowhere near>$_3$

This organisation corresponds to one of the basic patterns of 'thematic progression' described by Danes (1974, p118), and is reproduced here as figure 3. In this pattern each new cycle of propositional development builds upon the same element.

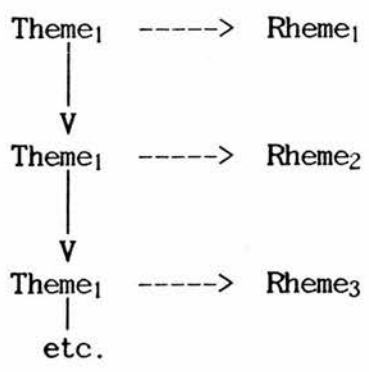


Figure 3: Danes(1974) - thematic progression type 1

One slight variation in this scheme is exemplified by the contributions:

B: I'll move home again
A: Well that's an S box
B: Exactly
A: Well, that's not much good is it?
B: Well look how ...

[P1.24]

Here the second 'that' is not quite coreferential with the first; the propositional development runs:

<B is to move somewhere | home again>
-> <B's home | is an S box>
-> <B's moving home | is not much good>

Thus, although broadly speaking the thematic segment remains, different aspects of it are focused upon in A's two utterances.

A more substantial variation is found in sequences such as the following which are very common:

A: ... right you're in, 1 2 3 4 5 down and 2 along, right?
B: uhu
A: I'm gonna move into the square immediately to the left of that,
is that a special square, no?
B: No. ...

[38A.41]

B: ...right see I'm at the third column
A: uhu 4 up
B: yeah and the one to the right of that is my home
A: one to the right OK, that's 2 up

[P1.16]

In these examples there is a progression in the referent of the anaphor. The first 'that', as before, picks out the rheme of the preceding proposition, but the second then does the same; i.e. it picks out the new rheme rather than the previous theme. The

propositional development of these two examples can be represented, therefore, as:

```
      <B is at some position which is | 5 down and 2 along>
->    <5 down and 2 along and
          | one to the left is where A is going to move>
->    <5 down and 2 along and one to the left,
                  where A is going to move,
          | is not a special square>

     <B is at some position which is | 3rd column 4 up>
->    <B's home relative to 3rd column 4 up is | one to the right>
->    <one to the right is, relative to A,     | 2 up>
```

As the sequence proceeds information is proposed and accepted in a cycle which leads to a simple growth of the proposition at issue. 'That' is here used to orientate propositional development towards the proposition as it stands at any point so that it may be extended. This latter pattern of discourse organisation is also described by Danes (1974); it is shown in figure 4.

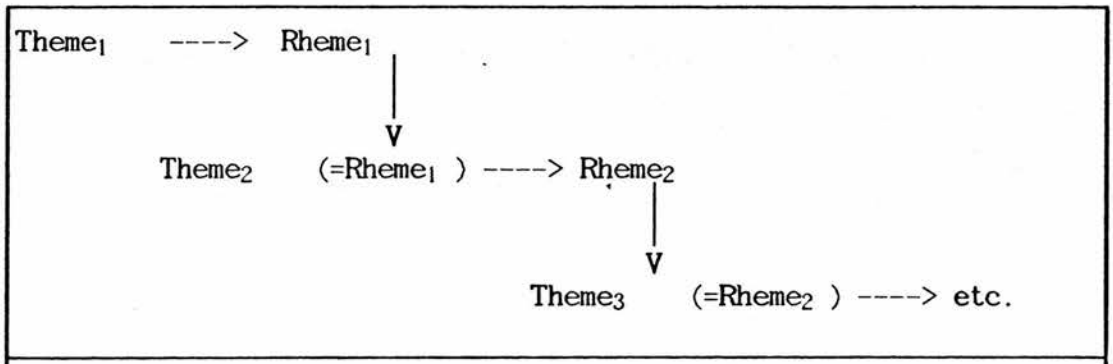


Figure 4: Danes (1974) - thematic progression type 2

One significant consequence of this is that the propositional development being accomplished can be freed from the strict one-to-one correspondence with the lexicogrammar that has been made

use of so far. The coherence of propositional development is being displayed in the appropriate selection of anaphors rather than in the selection of ellipticity. In this way, both ellipsis and anaphora can be seen as alternative resources for binding sequences together: the former working upon the lexicogrammatical actualisation, the latter upon the propositional. In fact, the range of operations available for the construction of propositions parallels those described for ellipsis. As Halliday and Hasan note, the difference is primarily one of 'level'; ellipsis is a lexicogrammatical phenomenon, a relatedness of form, while cohesive anaphora is a semantic phenomenon, a relatedness of function.

The schemata for thematic progression can now be used to make the discourse-functional specification more sensitive to the particular ways in which accountably coherent discourse is being achieved. To take as an example the discourse-functional specification of the segment 38A.41 above, i.e.

pc_1	[	|	ps_1	|	]	pc_2	pb_3	pc_3	|	ps_3
k2	[k2	|	k1	|	]	k1	k2	k2	|	k1
mi	[	|		|	]	mii	miii	miv	|	mv

right? *uhu*

it can be seen that the coherence of the sequence pc_1-pc_2-pc_3 is not represented. As the formulation stands at present there is nothing to link the proposed completed propositions together. The subscripts of the ideational layer functions can now be made to do some work of their own rather than simply echoing those of the lexicogrammatical bases: the subscripts will now track the themes of their propositions. Thus, sequences of propositions which achieve

'coherent' thematic development as sanctioned by the theme-preserving pattern will receive the same subscript. Those that conform to the theme-changing pattern will be represented by a sequence of consecutive subscripts. This partitions discourses into sequences where the thematic development is at its simplest; these will be termed 'thematic sequences' and correspond approximately to Keenan and Schieffelin's 'continuous discourse'.[22]

The propositional development of the protocol segment with which I began this subsection, i.e. 38A.31, can now be specified as follows. The state of development at each move which proposes a completed proposition is:

mi: <B is at some position which is | 4 down and 3 along>
mii: <4 down and 3 along | is one of B's special squares>
miv: <4 down and 3 along | is somewhere A is nowhere near>
mvi: <B has a special square | somewhere in top 2 rows>
mviii: <B has a special square | at 2 down 3 along>
mx: <2 down and 3 along | is somewhere A can move>

Thus, the moves at miii and mx are theme-changing, those at miv and mviii are theme-preserving, while those at mi and mvi can be said to propose 'new' sequences. This results in the ideational layer of discourse functions becoming:

$[pc_1$		pc_2	$pc_2]$ $[pb_1$	pc_1	pb_1	pc_1		p_2
mi	mii	miii	miv mv	mvi	mvii	mviii	mix	mx

and, furthermore, as was suggested need be the case in chapter one, it begins to tie together the 'interactional' and 'transactional' views of discourse organisation quite closely.

---

22. And hence, also to sequences internal to Reichman's 'conversational moves'; significant differences will, however, be mentioned below.

To demonstrate this I will briefly consider one result of the protocol analysis performed by Yule (1981). Having observed that nonlexical reference items (e.g. 'it', 'that', and null anaphora) can refer to both themes (i.e. theme-preserving sequencing) and rhemes (theme-changing sequencing), Yule associates the two patterns of thematic progression with two possible 'speaker discourse strategies'. These Yule terms the 'speaker's-topic-priority-rule' and the 'current-entity-priority-rule' respectively. He then concludes:

> 'The decision to interpret 0 [null] as a current-entity or as a speaker's-topic entity has to be based, not on the environment of the utterance containing 0, but on the hearer's assessment of the larger discourse strategy employed by the speaker.' (1981, p221)

Now, Yule states that the type of discourse analysis he is performing contrasts with 'that commonly found in primarily sociolinguistic approaches where it is the nature of the 'interaction' which is investigated.' (*ibid.*, p17) The discourse strategy employed by a speaker is, therefore, to be seen as a strategy for 'transferring information'.

However, the revised description of the ideational layer of segment 38A.31 above includes the deployment of 'that' as just another member of the set of linguistic distinctions which display the discourse organisation that is being achieved. That participants in a discourse are able to arrange and to schedule their interactions so as to achieve their discourse aims is, I take it, not controversial. Indeed, some of the analyses I have already given show a selection of particular types of discourse contributions in order to affect the course of the interaction in various ways. But then, to

suggest that the selection of certain linguistic forms, e.g. 'that' or null-anaphora, needed to be explained by a still 'more' intentional process such as selecting from available strategies seems curious. If any 'transferral of propositional information' that may be imputed to the discourse contributions has already been achieved by virtue of the interaction being effected successfully, then there is little need to decontextualise the discourse achievements those contributions represent so as to be able to construct the possible discourse strategies speakers are supposed to wield 'intentionally'.

Schegloff (1977), as in fact we have seen in chapter one, makes essentially what I take to be Yule's point above concerning the need to consider 'discourse strategy', rather than the 'environment of the utterance', although in somewhat more general terms. The formal manifestations I describe here represent those resources which often carry discourse organisation - but precisely *which* discourse organisation is not then recoverable simply from an examination of the manifestations exhibited. The discourse level is accepted here as an autonomous level of meaningful patterning with its own internal organisational principles which must also be taken into consideration. This also goes against Berry's attempt to treat exchanges as lexicogrammatical units; the tendency to reduce all adjacency pairs to question-answer sequences only hides the problem of noncorrespondence between discourse-level and lexicogrammatical-level acts.

The distinction between deciding to interpret a referent

according, on the one hand, to the environment of an utterance and, on the other, to an assessment of a 'larger' discourse strategy must, then, be seen as unhelpful. Only if the environment of an utterance is artificially restricted can its information be ruled out as irrelevant to the assessment. Manifestations of 'discourse strategies', when interpreted in context, combine to display the strategy being pursued. They need to do this since a strategy may only be proposed subject to ratification by the other participants in the discourse situation. If it is not ratified then repairs will be initiated and the strategy will be modified; in a sense, this is better expressed by saying that the strategy will *modify itself* since the strategy does not exist in isolation from the stream of situated discourse behaviour from which it is abstracted.

This can be seen in the following discourse functional characterisation of the protocol segment 44A.13:

A: Well, well I can have a penalty point
if that'll help
B: well if you go back down, {right?
A: . {uhu
B: then that would be better,
could you try that?
A: OK, (1s)

[44A.13]

as:

pc_1	pc_2	pc_1					pc_2	pb_2		pc_2	
k1	k2	k1	(*right?*	*uhu*	)		k1	k2		k1	
mi	mii	miii					.	miv		mv	
$base_1$	$base_2$	$base_3$ (pre-base					$base_4$ add)	$base_5$		*OK*	

The first use of 'that', at mii, is a straight-forward 'current-entity reference': A introduces a move and immediately

refers to it. Now, the move at mii projects a ps_2/k1-move. This is a strong prediction: a k1 must follow and there is only one possible propositional function still available for conflation with it. Whatever occurs at miii is going to be interpreted as a ps_2/k1-move or a pre-sequence for such a move.

If a ps^+_2 were to follow, the discourse would continue along the lines of:

ps^+_2		pc
k1	k2f	
miii	miv	

While if a ps^-_2 were to follow then, as described above, the discourse would need to develop more as:

ps^-_2	pc_2		
k1	k1		k2f
miii	miv		mv
	mod		

The actual move at miii reflects the fact that discourse participants will often, perhaps usually, avoid giving an explicit, distinct statement of understanding when a discourse-continuing move can be made to display the required statement instead. Move miii, therefore, relies upon its compatibility with a continuation of the discourse in which a ps^-_2 had been given. Furthermore, the expected modification comes at the thematic level and addresses the thematic sequence began at mi rather than the individual element of mii.

As has been widely noted, any discourse development which is not following a simple thematic progression requires that the speaker responsible make due reference to that fact. This, for example,

Reichman (1981) describes in her treatment of 'clue words', and Schegloff and Sacks (1973) refer to under the heading of 'misplacement markers'. There is probably a continuum of types of progression available which ranges from the barely necessary logical conjunction to a full side sequence as defined by Jefferson (1972). The move at miii attempts to terminate the thematic sequence begun at mi and so needs to draw attention to the fact that the thematic sequence is not being continued. This can be achieved in a variety of ways. The speaker can deny the proposition proposed at mii, 'that'll help', and give the projected ps^{-}_{2} explicitly; as will be clearer after the discussion of 'it', 'that' would not be entirely appropriate in such a move. Alternatively, the speaker can explicitly evaluate the move at issue negatively indicating that it is to be passed over; in this case the evaluation would be theme-preserving and so a 'that' could be appropriately deployed (as was the case in 38A.31, line 5, above). Or, the course the speaker actually took, the original thematic sequence can be restarted with an alternative possibility. This, as the most abrupt discourse development, well justifies the speaker's immediate use of 'right?' to enlist his/her hearer's support for the move taken. All three possibilities entail a ps^{-}_{2}-move and the linguistic distinctions drawn and resources deployed reflect this. The use of 'that' at mii and its non-use at miii both co-occur with other features symptomatic of the discourse development undertaken. Thus, although Yule is perfectly correct to state that the wider discourse strategy has to be considered, the assessment of that strategy is only possible on the basis of the linguistic actualisation which constitutes the 'environment' of

actual discourse contributions.

The use of 'that' at the second part of miii is, similarly, theme-changing and parallels the thematic sequence developed in moves mi and mii. At miv, however, the speaker achieves a theme-preserving move deploying 'that'. Again the thematic sequence is being brought to a close but, this time, the maze game move proposed has been positively evaluated. All the resources the speaker draws upon in moves miii and miv combine to achieve the required aims: i.e., a maze game move is selected for the other player, that move is evaluated as a desirable one, discussion of possibilities is brought to a close, and the speaker invites the other player to perform the move. This is achieved in the ongoing organisation of the discourse, a separate 'strategy' for its achievement was not necessary.

This view of the function of the reference item 'that' and of its place among the linguistic resources generally will be further clarified by the consideration of the use of 'it' to which I now turn.

6.2 The discourse role of 'it'

One of the simplest occurrences of the referential endophoric use of 'it' is in answer to questions where the attributes of some entity are requested. This occurs twice in the sequence:

A: Where is your goal?
B: Ehm, it's, on, the top row, (1s)
and it's, fourth-, fifth along, (1s)
A: {Yes
B: {Wh- where's yours?

A: It's, the top row and second along
B: uhu, OK

The propositional development of the two question-answer pairs is identical in form; they are, respectively,

<A's goal is somewhere | where?>
-> <A's goal is somewhere | top row 5th along>

<B's goal is somewhere | where?>
-> <B's goal is somewhere | top row 2 along>

This progression superficially resembles the theme-preserving sequence but there is an important difference. The relations between states in propositional development discussed above were all between *completed* propositions; here the relation is one of progression from a propositional base to a completed proposition. This suggests that a much 'closer' relationship is entailed by the occurrence of 'it' than of 'that': the latter operates across sequences developing single propositions while the former operates within such sequences.

This conclusion also appears to hold when both reference forms are found in close proximity. For example, in the sequences of the form (of which there are very many instances):

B: OK, if you go to, the left, (1s)
A: wi- will that change a gate?
B: it will change a gate for me, yeah

[44A.1]

first, A's 'that' achieves a theme-preserving move which specifies a propositional base and, second, B completes that base using 'it'. The discourse-functional characterisation is then:

	pc_1	pb	pb_2	pc_2	$ps^+{}_2$
	k1		k2	k1	k1
mi	mii		miii	miv	mv
OK	$base_1$	0	$base_2$	rep_2 $add_{2.1}$	*yeah*

This sequence is, therefore, readily seen to be a coherent segment of discourse. There are cases, however, where 'it' occurs in other environments and a treatment of these will allow a more general statement of the 'meaning' of selecting 'it' rather than some other form.

In the following examples, the move in which 'it' is deployed is again a pc following a pb but the two moves do not form a question-answer pair.

A: Well if I move to the left now,
will that be helpful to you?
It's the only way I *can* move actually, (laughs)
B: well, if you move to the left then
that's fair enough,
A: all right

[44A.9]

Here A's second pc is clearly not serving as a suggested answer to the question s/he has just put; on the contrary, it seems to be trying to suggest that the question's answer is in fact irrelevant due to there being no other choice of maze game move available. A's turn as a whole, then, is both informing B that A can only move one way and seeking B's approval for that move. B, accordingly, gives that approval but the nonelliptical form of the contribution supports the view that the thematic progression over this sequence was not as smooth as it might have been.

One of the ways in which Halliday and Hasan contrast 'it' and 'that' is in terms of 'selectivity': the demonstratives are selective, the personal 'it' nonselective.[23] This could be a factor in the use of 'it' in this case. A wants to achieve a shared

orientation to his/her moving left as the only move possible. 'It', as nonselective, suggests there is no need to make a selection because there is only one entity from which to choose. A little later in the same game a similar sequence occurs:

B: Right, where are you going?
A: *Up*, (laughs)
B: hold on hold on, that's an S box for, of mine,
A: (1s) Ah, yeah well
B: is it the only way you can go?
A: I think it is, well, I can go down actually,

[44A.13]

In the penultimate turn it is B, this time, who selects 'it' and again there is a suggestion that there is only one possible entity that could be at issue, i.e. A's move up. Notice also that the contribution in which 'it' first occurs is here a pb-move following a pc-move, which gives another possible environment.

However, all the examples considered so far, including the original question-answer pairs, share a similarity in the kind of 'conversational work' that the discourse participants are undertaking in the contributions in which 'it' occurs. That is, they all co-occur with 'repair' work with respect to the original proposition at issue; more specifically: the moves initiate repair of the rheme of that proposition.[24] Just what is to be taken as the proposition at issue in each case can be clarified by consideration of the discourse-functional characterisations. To take the last example first and indicating repair work on a proposition by a dash ('), the organisation of segment 44A.13 can be set out thus:

---

24. For this to apply to question-answer pairs generally I am regarding the answer as 'repairing' at the *propositional* level the

---

23. Halliday and Hasan (1976, pp58, 70).

	pb_1	pc_1		pc_2	0	pb_1'	pc_1'	pc_1'
right	k2	k1	k2f.c	k1	(k2f)	k2f.c	(k1)	k1
	mi	mii	miii	miv	mv	mvi	mvii	mviii
	$base_1$	$mod_{1.1}$ *hold on*	*hold on*	$base_2$	-	$base_3$	$emb_{3.1}$	$base_4$

(The 'that' of $base_2$ is theme-changing giving rise to pc_2 and the 'it' of $base_3$ accompanies the onset of repair at mvi.) B begins by asking for A's move and A responds by specifying the direction (mii). B is unhappy about this and so initiates a continuing k2f-move in order to project discussion of A's intended move. Move miv presents the reason for B's objection but A fails to respond in a positive manner. B, on the failure of moves miii and miv to evoke a more agreeable completion of pb_1, takes a further k2f.c move; this can be seen as a retry of move miii although the action B takes at mvi is more positive. Instead of inviting A to respond (a k2f-move is not obligatory), B projects a turn-at-talk for A in which A is to make a pc/k1-move. Furthermore, as befits a k2f.c-move, B explicitly draws attention to A's response at mii by use of the endophoric 'it' and so calls for an alternative. At first, A attempts to support his/her previous answer (although hedging on the k1 role), but then provides a new completion for the original pb_1 at mi: instead of a definite move up being planned for A, the participants now find themselves situated with a downwards move for A proposed (but not yet accepted, although it is accepted after a few more turns).

The organisation of the first example, segment 44A.9, can be set out similarly:

pc_1	pb_2	pc_1'		pc_2	

overt incompleteness of the question.

well	k1 mi		k2 mii	*pk2f*	k1 miii	*well*	k2f miv	k1 mv		k2f mvi
	$base_1$		$base_2$		$base_3$		rep_1	$base_4$		*all right*

Here A initiates a thematic sequence which is to be concerned with finding the next maze move A is to make. At miii, however, A makes an additional move prior to the answer projected for B by mii. The structural role A's action entails is pk2f but the form of the contribution and its k1 function supercedes this interpretation. The anaphoric reference 'it' at miii can be seen, by type alone, to pick out the direction of a move and only one move is at issue. Attention is therefore being drawn to the preceding propositional state which has the direction as theme. This is the propositional base of mii, i.e.:

<A moving left | helpful for B?>

The move at miii does not so much 'repair' the rheme of this proposition as trample on it. B finds him/herself in the position of having a ps-move expected by an apparently superceded pk2f/pc, and a k2f-move expected by a preceding k1, both projected for the same move. In the absence of an unambiguous lead from A, B plays safe and contributes a full repetition of the move at issue and positively evaluates it.

The discourse-functional characterisations of the first question-answer pairs can remain unchanged; the 'repair' of incomplete propositions is already represented in their progression from pb to pc. However, although the idea of repair, when interpreted broadly, fits the occurrences discussed so far and, indeed, also fits

clear cases of repair such as:

A: ...is 2 3, an S gate for you? (1s)
B: Ehm (2.5s) no, oh yes it is 2 3 is uhu

[44A.7]

this appeal to 'incompleteness' needs a tighter specification. Furthermore, the analysis I have presented may at first sight seem unsuited for the use of 'it' in normal extended discourse as a simple attenuated form of reference sanctioned by the high salience of the referent. For example, even if the analysis can be applied to cases such as

B: ...there's a T shape, right? {I'm in,
A: {Mmhm,
B: if you can imagine it
I'm in the centre bit of it, ...

[38A.10]

perhaps by treating the *there*-clause as a pre-sequence which establishes a theme to which the following information ('I'm in the centre bit of it') addresses itself and therefore completes, it may be unclear how this could improve on the standard treatment in terms of focus introduced in chapter three. The protocol segment 38A.7 below exhibits the use of pronouns that is standardly investigated in terms of focus and so a consideration of this will help assess the possibilities available.

6.3 A noncognitive re-interpretation of focus

In segment 38A.7, 'it' appears in two distinct 'chains of reference'. The first starts some twenty turns earlier with the pair:

one of those S squares [4 turns] the special.

Fifteen turns later, at line 2, the referent is picked out again by

'that special square', then by 'the special square' and, finally, by 'it' at line 6. The second chain refers to B's 'moving backwards' and consists of:

move backwards (line 9), it (l.10), it (l.12), it (l.14).

Both presumably conform to the standard focus interpretation: the use of the demonstrative 'that' to effect reference back over a substantial segment of the discourse appears similar to cases discussed by Reichman (1981, p119 and *passim*),[25] while the phrase 'move backwards' introduces a current discourse entity which is then available for pronominalisation.

1	B: /1 Unless, y- can go backwards and,
2	just go back to that special square somehow?
3	A1: I- I st-,
4	A: I can't- I'm in the special square
5	B: (laughs)
6	A: And I can't move anywhere out of it
7	B: (laughs), oh we're both jammed in,
8	A: You can't move anywhere at all, no?
9	B: I ca- I can move backwards but,
10	it's not gonna change anything {at all
11	A: {well
12	it's the only thing you can do then, (1s)
13	B: {OK
14	A: {see- what what we're gonna get out of it,
15	right, I'll move- make my move again

Protocol segment: 38A.7

However, if we examine the thematic development achieved by

25. Although Reichman, as far as I can tell, does *not* present an explicit account of why a definite expression should be used over a demonstrative as in line 4, nor an account of a pronoun as in line 6. Reichman's approach is compatible with a strictly syntactic production of the latter but see, for example, Bosch's (1983) criticisms of the structural account.

this segment the following picture emerges. B's contribution at line 1 starts seeking maze game moves of a particular sort from A in order that B's situation can be improved. The appropriateness of this conversational move at that time rests upon its being A's turn to make a maze game move since only moves by A can change B's situation; B therefore is quite justified in proposing a propositional base of the form:

<A must move somewhere |
backwards and back to that special square?>

A starts a reply with 'I can't', which is suspended, and then informs B that s/he is already in 'the special square' and cannot move out of it. This amounts to quite a substantial revision of the assumptions B displays in his/her question and, in fact, it is profitable to view the design of A's contributions in lines 4 and 6 as arising from the conversational 'work' that A has to do in order to achieve this revision. The specific revisions required amount to: first, correcting the theme of B's proposition because A cannot move somewhere and, second, re-acquainting B with the relative positions of A and the 'special square' so that B is aware of the impossibility of attempting to move 'back' to it.

A's first attempt, 'I can't', may have been aimed at an immediate revision of the theme but as a syntactically appropriate answer to B's question it would have failed to display this function as clearly as it might. B, unless given good reason, would interpret A's response as completing the rheme of the propositional base rather than addressing the theme. Furthermore, as a simple extension of the rheme it would have failed to display to B quite the extent to which

B's presuppositions were in error.

A's self-repair, 'I'm in the special square', answers B's question as B would expect but does so by altering the rheme rather than by merely completing it. B's laugh at line 5 is a good indication of an acceptance of A's alteration. The proposition at issue is then:[26]

<A must move somewhere |
backwards and back to that special square?>
A is in the special square>

This still has not fully corrected B's wrong impression of the state of affairs but the new rheme gives A a convenient platform from which to alter the theme at line 6; resulting in:

<A must move somewhere
A cannot move anywhere | *A is in* the special square>
out of

This B then accepts with the archetypal k2f.f introducing item 'oh' and brings the topic to a close with a summation of the present state of play: 'we're both jammed in'. The discourse-functional organisation of lines 1-7 is then simply:[27]

0		pb_1		pc	pc_1'			pc_1''	.	pc_F
		k2		k1 -	k1		k2f	k1	.	k2f.f
m		mi		mii	mii		miii	miv	.	mv
1/3		1-2		4			5	6		7
0		base			base		NV	[prebase emb	add]	NV+*Oh*+base

Lines 8-15 also cohere into a well-defined whole. First, and again displaying the 'flow' of topic typical of discourse,[28] A picks

---

26. It will be recalled that *this typeface* is being used to indicate a 'passed over' interpretation of some kind.

---

27. 'NV' denotes a non-verbal response such as laughing, etc.

up the aspect of B's summation at line 7 which is not directly available to A and explicitly checks it. (Moves such as this, which focus on particular aspects of a previous proposition, will be identified by the subscript 'F' on the ideational layer function.) As discussed above, A's contribution at line 8 is structured so as to elicit support for the proposition at issue and so B's response at line 9 is a case of an implicit $ps^{-}{}_{n}$ followed by explicit pc_{n}·; in terms of the thematic development:

<(B *cannot move anywhere*>
B can move backwards ...

Then, as was the case in lines 1-7 with respect to the proposition at issue there, this single proposition forms the basis for subsequent discussion. Although further information is brought to bear and decisions are made, in an important sense there is no *thematic* progression at all. The achievement of a complete, supported, and acknowledged proposition is the conversational task the players undertake until acceptance is given by B with the 'OK' of line 13 and A's 'right' at line 15 displaying that topic is moving on. This passes through the following stages:

<B can move backwards
| not going to change anything ...
| only thing B can do ...>
| see what happens ...>

while the discourse organisation is accordingly:

pc_F	(pc_1)	|	pc_1·		|	pc_1··		|	$ps^{+}{}_{1}$···	|		pc_1···
	k2		k1			k2f.f	(		k1		)	.
mvi	mvii		mviii			mix			mx			.
8			9	10		12			13			14	
base	rep[pol]		[base *but*	base]		base			*OK*			base	

28. This idea of topic 'flow', originally developed by Sacks is treated at length in Casey (1981) and will be referred to further below.

The conclusion to be drawn from this is that the original specification of the use of 'it' as co-occurring with 'repair' work does capture a significant aspect of how the discourse is being developed. The unifying feature seems to be that the selection of the anaphor 'it' does not advance the thematic progression but, instead, displays that work is still necessary or is being performed upon the proposition then at issue. This lack of thematic progression also explains the occurrences of 'it' found in the previous section in the analysis of tag questions in which the questioner is explicitly 'failing' to take up the development and so 'encourages' his/her interlocutor to do so.

If the stretch of language over which work on a single 'proposition' is undertaken is viewed as the 'discourse unit' within which the functionally-labelled sequences being described here operate, then this becomes very reminiscent of Coulthard and Brazil's claim concerning the exchange; i.e. that the exchange

> "... is the unit concerned with the transmission of information ... [it] carries one (potentially complex) piece of information and its polarity, and that the information and polarity can only be asserted once." (1981, p101)

However, as this and the previous chapter have shown, the conception of the exchange as the simple three or four move entity presented by Coulthard and Brazil is in need of serious further development. Berry (1981a, p139) at leasts hints, however, that some such development has been accepted as necessary and so the extensions I have suggested here may be taken as a first step towards this.

Within this view, then, what has happened to the notion of 'focusing'? First, it can be observed that the approach here shows several similarities with Reichman's (1981) in that a discourse unit - which may as well now also be labelled an **exchange** - has been proposed within which anaphoric reference by 'it' is preferred for its objects of interest. Reichman's unit is described as "a set of utterances ... [which] fulfills a speaker's communicative goal *vis-à-vis* a particular preceding part of the discourse." (1981, p16) This reflects her concern with addressing a 'higher' rank (or as I argue, stratum) unit than I have considered so far since examples of her communicative goals are: support a claim, challenge a claim, make an analogy, etc. Each of these could extend over substantial segments of discourse. In contrast to this, I claim that the notion of exchange, as just defined, is a more 'general' construct and is better suited as a *discourse*-level entity than Reichman's conversational moves and context spaces. This is to begin to specify the particularly *linguistic* goals of discourse that I criticised Reichman and others for not addressing in the Introduction, while simultaneously allowing us a better grasp of Halliday's claim, which I cited in chapter one, that: "The input to the semantic networks is sociological and specific; their output is linguistic and general." (1973, p80) Reichman's units are contextual and sociological, *not* discoursal and linguistic. A further level of patterning needs to mediate between a stratum such as Reichman's and lexicogrammar and the discourse-functional level I describe here is intended eventually to achieve this.

This necessarily involves a re-interpretation of 'focus', or at least of the *local* focus phenomena at issue at the moment. Instead of a language-extrinsic notion imposed upon linguistic organisation by the processing capabilities of the supporting mechanisms, focus here can be seen as a label for one aspect of the work to which discourse addresses itself. That work is the achievement of mutually-agreed progressions of accountably relevant thematic development and is brought about by the deployment of the available discourse-level resources. The orientation of discourse participants towards the subject-matter of the discourse is, then, a consequence of language-intrinsic resources and does not yet require a justification in terms of underlying 'processes' of interpretation. Each particular development of the discourse sanctions appropriate future developments and 'focus' is an attempt to describe this at the wrong level. This claim parallels Grosz, Joshi, and Weinstein's (1983) treatment of 'local' focus in terms of 'centering'; their conclusion that this construct derives "from neither semantics nor pragmatics exclusively" and that its principles "must be elicited from the study of discourse itself" (1983, p48) is fully compatible with the account given here and I suggest that a thorough statement of the discourse resources I have begun to describe would subsume their account and explicitly relate the resources that bring about those phenomena which have been attributed to 'focus' to more general resources of discoursal and contextual development.

One of the essential points I hope has been suggested throughout this chapter is that cohesion-'building' resources are not

to be seen as 'problems' needing 'resolving' on the part of the conversational participants. They are instead *precise instructions* upon how the interaction is to proceed, what is being talked of, what has been understood in the talk so far, and so on. Thus, for example, ellipsis is not some principle of 'laziness' or even, necessarily, economy. It is a *positive meaning distinction* which captures the fact that potential that has been established is to continue as established and is not yet to be superceded. This contrasts with any view of ellipsis as primarily a feature of memory focusing with respect to 'recentmost' syntactic structure; ellipsis here is a stabilised linguistic resource for preserving the actualisation of systemic potential - 'memory for structure' is to be constructed first as a linguistic phenomenon rather than a psychological one. Similarly, as I have suggested, focus is not something which is passively 'tracked', it is an ongoing contingent achievement which participants work at and maintain by their deployment of cohesion resources. When a particular discourse organisation has been achieved, this entails specific thematic progressions and appropriate saliencies. The discourse, then, *itself* guides and indicates the appropriate manner of its interpretation.

Furthermore, a more general conclusion to be drawn from the above discussions is that there are particular discourse resources available to the participants in the maze game situation for achieving accountably coherent streams of linguistic interaction and that the management of the expectations these resources create when deployed can itself become a significant part of the interaction.

Thus, most simply, a question can achieve the expectation of having an answer occur - which is a useful result if information is to be shared - but very much more complicated uses, such as those which have been illustrated in this chapter, are also possible.

It will be useful now to draw together the results of the above discussions somewhat in order to summarise the discourse-functional sequences that have been attributed to the maze game protocols. The classifications offered here can be seen as an initial attempt to specify part of the 'semantics' of cohesion and, as suggested in section 1, are to serve as *constraints* upon the output of networks of choice to be constructed for the discourse level at a later cycle of investigation.

7. Discourse function patterning - an initial collection

In the general development of the discourse level framework that I began in chapter three, two locally-oriented sources of organisation were considered: turns and moves. There I demonstrated that it was useful to separate turns and moves as belonging to two complementary dimensions of discourse patterning - this was explained in terms of Richardson's distinction between discourse structuration and discourse synchronisation. The discourse resources which give rise to moves are clearly where I am attempting to place most of the work of achieving conversation and so the organisation at this level is considerably more complex than that for turns. All that needs to be built into the turn-management system at this point, is a role for

the participant who is, at the time, speaker; i.e. who is responsible for the actualisation being undertaken. A turn is then the stretch of talk over which the bearer of this role does not alter. As far as the discourse structuation is concerned, the simplest sequences of functionally-labelled contributions can be set out by specifying for each discourse (micro-)function the sequence of further functions it projects both retrospectively and prospectively. Also, commonly occurring 'realisations' of each micro-function will be given if any have been observed. This basic discourse level information is presented in figure 5.

DISCOURSE MICRO-FUNCTION

retrospectively projected sequence	current and actual	prospectively projected sequence	common realisations
... m_{i-2} m_{i-1}	m_i	m_{i+1} m_{i+2} ...	
	k2	k1 k2f	rising final intonation
k2 k1	k2f.c	k1 k2f	rising final intonation; repetition; contrastive intonation
k2 k1	k2f.f		falling final intonation
	k1	k2f	falling final intonation
	k1.c	k1	a sequence of rising final intonations terminated by a fall; a sequence of falling intonations terminated by a rise
k1	pk2f	k1	interruption
	pb	pc ps	interrogative syntax
pc	ps		repetition; propositional paraphrase
pc_i pc_{i+1} .. pc_{i+n}	ps_i^-	$pc_{i'}$	mod_i[pol]; contrastive intonation
pc	ps_i^+		rep_i[pol]; falling final intonation; propositional paraphrase
pc_i	$pc_{i'}$		grammar: mod; thematic: *it*-anaphor

Figure 5:
Simplest discourse function order lists
(centred on a 'current' function)

It should again be stressed that this is not intended as a 'formalisation'. The statement that, for example, a k2 function makes relevant a k1 function which in turn make relevant a k2f function is a claim about the properties of one possible *sequence* of lexicogrammatical and intonational actualisation cycles, not one about the only sequence that may 'legally' occur and its realisation in form. Claims of the latter sort, if possible at all, must await the associated networks of choice. Furthermore, this table does not include the sequences discussed above which appear to rest on certain *combinations* of micro-functions from distinct layers; for example, that a 'k2/ps' projects a 'k1/ps' for the other player. Figure 5, therefore, only serves as a slightly extended version of Berry's basic three layer schema with which I first introduced her account of the functional level at the end of chapter two.

Berry, of course, goes on to formalise the general constraints she observes *across* layers in terms of a system network which generates bundles of discourse functions, i.e. moves or turns in her framework; the 'grammatical' sequences of moves then entail an interlayer series of constraints. The problem here, of course, is that we are not in a position to construct system networks. It is not clear in structural terms what stretch of language a network would be defined over and, therefore, lacking the necessary higher vantage point from which to begin systematisation, such a move would be premature. Drawing an analogy with lexicogrammar, the current stage of the investigation may be likened to a set of observations of the

form 'modifier precedes head' or 'theme precedes rheme' - while the mutual ordering of certain function bundles has been described and motivated, the notions corresponding to the noun group or clause in which such function bundles are operational are missing from the discoursal account. There is no basis, then, on which to suggest 'features' for the discourse level systems of choice because we do not yet have an entity to classify in featural terms - there is no point of entry to the network required.

What has been suggested is the notion of extending the range of the exchange so as to fill the role of the structural entity within which the discourse functional sequences may be more properly specified. The work of this chapter can therefore be seen as an initial listing of some of the more common functional decompositions of such a unit and a collection of observations concerning such decompositions' possible functional roles in the context of developing a discourse.

As a summary, then, of some of these decompositions and observations I will conclude this chapter with first, a list of general observations on the effects of moves or constitutive functions of exchanges on discourse development, and second, observations on what may for the moment be loosely described as *inter*-exchange developments - i.e. on commonly occurring sequences of exchanges that develop an entire series of propositions. Any network that is constructed for the discourse level will have at least to support these organisations and, via its chooser specifications,

motivate their use similarly.

Sequences relating to single propositions

(R1) When a pb function *follows* a pc function for the same, or related, proposition at issue (hereafter 'pai'):

a) its move may be considered a 'newsmark', e.g.:

pc_1		pb_1	
k1		k2f	...

is it?

b) its move may be a tag, e.g.

pc_1	$pb_{1.1}$	
k1	k2	...

isn't it?

c) its move may help constitute a simple question, e.g.

pc_1	(|)	$pb_{1.1}$	
k2	(|)	k2	...

are you?

(R2) When a pk2f function *precedes* a pb function for the same pai, then the questioner is already very sure of the answer; e.g.

pc_1	$pb_{1.1}$	$pc_{1.1}$	
pk2f	k2	k1	k2f

the projected $pc_{1.1}$ of slot 3 entails a ps_1 - this case shades into

(R1.b) above.

(R3) Sequences such as

pc_1		ps_1
k1		k1

may occur with AB-events where both speakers have the right to bear a k1-role with respect to the pai.

(R4) It is possible to have single moves classified differently at a single layer with respect to distinct pai's; e.g.

$pc_{1.1}$	$ps^+_{1.1}$
ps^-_1	pc_1,

(R5) *Repetitions* may be achieved by *modifying* an intervening lexicogrammatical base to accord with one previously given.

(R6) A move of the form: 'k2f.c/pc_i/m_j: [rep]' picks out, by means of the repetition, a repairable rheme (i.e. that of pc_i) for upcoming talk.

(R7) A speaker may always 're-do' a move, but has to be aware of the prevailing discourse expectations and design the contribution accordingly.

(R8) An in-progress move of the form 'k1/pc_i' may be interrupted so as to carry the exchange towards early completion as follows:

pc_i		.		ps_i
k1 -		pk2f		k1

(R9) A thematic sequence of completed propositions may function as a single completed proposition.

(R10) Moves may work on an existing proposition by means of

(i) lexicogrammatical addition or modification

(ii) anaphora (especially *it*)

The former gives rise to 'intra-pai' progressions; the latter to repair. These categories often overlap, although a general distinction is that repair is a positive action taken in response to a perceived inadequacy whereas progression is more neutral and less actively seeks to right a state of affairs.

(R11) Focusing on the theme of an incomplete proposition projects an insertion sequence.

(R12) A k2f.f function implies that:

(i) the pai is established and accepted

(ii) the proposed role allocation (particularly k1 and k2) is accepted

(iii) thematic progression may continue if relevant (by, e.g. prior rheme becoming current theme, providing a new lexicogrammatical base, or anaphora - especially *that*).

(R13) Furthermore, a k2f.f function projects a further move for its speaker; e.g

k2f.f

m_j m_{j+1}

(R14) A micro-exchange may occur within progressions between sequences related to their respective pai's; e.g.

pc_i [pc | ps |] pc_{i+1}

k1	[	k2	|	k1	|	k2f]	k1
mi	[		|		|	]	mi

(R15) A pc_F may relevantly follow a pc_i.

(R16) In a sequence such as (the bracketed fundle is optional)

pc_i	(	pb_{i+1}	)	pc_{i+1}	|	ps^+_{i+1}
k1		k2		k2	|	k1

(i) the ps^+_{i+1} entails a k2f with respect to pc_i

(ii) the pc_{i+1} entails a ps_i

(R17) A sequence may not proceed beyond ps_i to sequences relating to a proposition pc_{i+1} until a k1 with respect to pc_i has been forthcoming; e.g.

k2	|	k1
ps_i	|	ps_i

Chapter Five

Some contextual consequences of discourse

In chapter two I suggested that the relation between form and function might be grounded in the Hallidayan notion of realisation between strata; language was to be considered as the realisation of context. It was also suggested that, in order to accommodate Halliday's claim that context is predictive of the text, the context might also, in addition to the formal stratum system networks of lexicogrammar, intonation and discourse, need to be considered a source of initiative; i.e., the state of affairs within the Nigel framework whereby 'The environment never volunteers any information; all of the information received by a choice expert is in response to questions asked' (Mann, 1982, p5) might need to be altered. Finally, while the discourse-functional level as articulated in the previous chapter has suggested that there is an extremely local - i.e. centred around 'exchanges', adjacency pairs, and the like - kind of organisation around which cluster certain phenomena of ellipsis, anaphora, substitution, reiteration, etc., this chapter will argue further that there is *achieved* in the discourse a more lasting orientation which is not structurally-bound at the lexicogrammatical or discoursal levels; this orientation I will term **microregister**. The discussion here will help (i) to get an improved sense of how the 'preferred' forms for propositions made use of in the previous chapter are established - thus again increasing the potential reliability of recognition criteria for discourse functions - and,

(ii) to begin to suggest the direction I favour for improving the sensitivity of the formal stratum of the linguistic system to the effects of context as called-for above.

The discussion will proceed in three stages, each stage concentrating on a more specific and localised area of concern than the last. The first stage briefly discusses some of the ways of approaching the relation between context and language that have been proposed in the Neo-Firthian tradition. The second, drawing on examples from the maze game protocols, shows that the largely static, general and anonymous mechanisms previously proposed for relating language and context can also be observed operating actively in specific and individualised uses of language in order to promote a case-by-case alignment of the linguistic resources available to individual discourse participants. Finally, the third stage takes this to its logical conclusion and sketches how the highly detailed and specific, shared orientation of linguistic and contextual resources among discourse participants is maintained in the appropriate selection of discourse function sequences.

1. Register and micro-register

As has been mentioned above, the Firthian and Neo-Firthian traditions of linguistic analysis have always been concerned with the relations between contexts and the language that occurs in those contexts. This arises naturally from Firth's placement of the context of situation at the centre of his view of language. The consideration

of the language of particular contexts soon led to investigations of, first, the ways in which language differed from context to context and, second, the aspects of context that were to be held responsible for such differences. Studies of 'stylistic' variation were also, then, discussed in these terms, as, for example, in Enkvist (1964) and Spencer and Gregory (1964).

The theoretical construct which was devised for explaining such variation was 'register'; the language of any particular register was to be identified by virtue of the distinctive set of regularly co-occurring linguistic features that that language displayed. This was intended to capture theoretically the obvious differences that are found between the language of, for example, newspaper headlines, technical journals, informal conversations, plays, political speeches, recipes, and so on. By listing the various linguistic differences between texts of different registers and associating such differences with particular differences in their 'social contexts', it was hoped that the longstanding Firthian goal of being able to bind context and language together formally would be realised.

The variation in language attributed to register has been termed 'diatypic' by Gregory (1967),[1] that is language variety 'according to the use' rather than according to social position as is captured in 'dialectal' variation. The particular dimensions of difference devised for the individuation of registers at the contextual/situational level accordingly revolved around the manner of use and purpose that the associated language was being asked to

serve. Indeed, the most common sense in which register is understood remains in terms of informal, stylistic descriptions such as Gregory's technical versus nontechnical, formal versus informal, didactic versus nondidactic, spoken versus written, sound-only versus face-to-face, and so on.

However, this did not supply as systematic a way of decomposing the situation as was required for the precise statement of the predictions situations make of their texts. All that could be achieved was a list of likely linguistic properties associated with each contextual distinction, which, although useful, was not regarded as the final endpoint of analysis.[2] Halliday's view of the role of register in the linguistic system places the inquiry at a more fundamental level:

> "*All* language functions in contexts of situation, and is relatable to those contexts. The question is not what peculiarities of vocabulary, or grammar or pronunciation, can be directly accounted for by reference to the situation. It is *which* kinds of situational factor determine *which* kinds of selection in the linguistic system. The notion of register is thus a form of prediction: given that we know the situation, the social context of language.use, we can predict a great deal about the language that will occur, with reasonable probability of being right. The important theoretical question then is: what exactly do we need to know about the social context in order to make such predictions?" (1978, p32)

A classification scheme for situations intended to represent those aspects of the social context important for prediction was developed by Halliday, McIntosh, and Strevens (1964) and this scheme is

---

1. Cf. also: Halliday (1978, p35).

---

2. For examples of such lists, see Ochs' (1979) discussion of planned versus unplanned language, Givon's (1979a) development of a pragmatic versus syntactic distinction in modes of language use, Rubin's (1980) dimensions of communicative experience, and also Enkvist (1980) for a literature review.

accepted almost unaltered by Halliday (1978).

Within this framework situations are considered along three dimensions of organisation. It is proposed that a characterisation of 'what the participants in the context of situation are actually engaged in doing' (Halliday, *ibid.*, p222), 'the role relationships in the situation in question' (*ibid.*), and 'what function language is being made to serve in the context of situation' (*ibid.*) should be sufficient to enable quite specific predictions to be made about the details of the language that occurs. Halliday describes these three dimensions in more detail as follows: any situation is taken necessarily to entail specific 'values' in respect of

> '(i) *the social action*: that which is 'going on', and has recognisable meaning in the social system; typically a complex of acts in some ordered configuration, and in which the text is playing some part, and including 'subject-matter' as one special aspect; (ii) *the role structure*: the cluster of socially meaningful participant relationships, both permanent attributes of the participants and role relationships that are specific to the situation, including the speech roles, those that come into being through the exchange of verbal meanings; (iii) *the symbolic organisation*: the particular status that is assigned to the text within the situation; its function in relation to the social action and the role structure, including the channel or medium, and the rhetorical mode.' (*ibid.*, p142/3)

These are then labelled as, respectively,

> 'a *field* of significant social action, a *tenor* of role relationships, and a *mode* of symbolic organisation.' (*ibid.*, p143)

To take one of Halliday's examples by way of illustration of these constructs: in a game of football the 'field of significant social action' would be the game itself plus any language which the players might make use of in the playing of the game, the tenor would

consist of the relationships of members-of-a-team, opponents, referee, etc., and the mode would be the classification of the occurring language as instructions and orders and the like between the participants while playing. This would contrast with the situation when the players might be, for example, *discussing* the game afterwards in which case the field of activity has become the discussion itself, the tenor may have changed to, perhaps, drinking companions, and the mode would be the particular rhetorical forms of discussion deployed. It is then Halliday's claim that the specification of a social context in terms of its field, tenor, and mode provides precisely the information necessary for predictions concerning the language to follow.

Halliday, in fact, goes even further than this and claims that

> 'There is a tendency ... for the field of social action to be encoded linguistically in the form of ideational meanings, the role relationships in the form of interpersonal meanings, and the symbolic mode in the form of textual meanings.' (*ibid.*, p123)

Such a position is certainly not uncontentious and, indeed, until recently it was difficult to see how it might be investigated; without a substantial formalisation of the Hallidayan framework claims such as this could only stand as potentially interesting suggestions which were completely unfalsifiable. Now, however, Mann and Matthiessen's argument that the environment of the Nigel framework may be usefully segmented in ways reminiscent of the field, mode, and tenor articulation does, at least, begin to offer support of a kind.

Relevant here, however, is that there is an important difference in the role granted to register in Nigel and that suggested by the Hallidayan paradigm; furthermore, I think it can be shown that it is the Hallidayan view that is the more appropriate. For Halliday,

> 'The semiotic structure of a given situation type, its particular pattern of field, tenor and mode, can be thought of as resonating in the semantic system and so activating particular networks of semantic options... ' (*ibid.*, p123)

Register therefore serves the important function of making the linguistic strata of potential sensitive to their contexts of use. Certain paths for the actualisation process are judged to be more or less relevant even prior to attempting their actualisation. In contrast to this, the position in Nigel is that the only means by which sensitivity to context may be achieved is by having the choosers ask the appropriate range of questions: all initiative lies with the grammar. As a consequence of this the role of register is taken to be minimal. This has to be the case simply because no mechanism exists for unsolicited high level information to influence actualisation processes. The appropriate question has first to be put to the environment otherwise no information is forthcoming. Unfortunately for the Nigel organisation, it can not be the case that choosers are always able to ask appropriate *context-independent* questions of the environment in order to generate appropriate forms. This can be shown as follows.

Within the maze game, it is possible to set up correlations of the same general form as employed for capturing register, i.e. 'whenever contextual feature F occurs, so do linguistic features L_1,

L_2, ..., L_n', but whose validity is often strictly local. In addition, such correlations need not necessarily be stable and may pass through several instantiations during their lifetime. For example, if one considers the 'contextual feature' consisting of that relevant entity to do with the positions within the maze that change the state of a player's barriers, i.e. a 'switch point', then players may refer to this entity in many ways. But their selection of referring expressions is significantly constrained by the other referring expressions that have been used previously in *that particular discourse*; this is one of the results obtained by Anderson's (1983) detailed statistical examination of the types of expressions and terms employed by maze game players. Thus, in protocol 38A, where the first four references to switch points were contained in the utterances:

B: I'm stuck, can you get into one of those S squares?
.
.
A: Right I'm in the special now
.
.
B: ...can you go backwards and, just go back to that special square somehow
A: I can't I'm in the special square

[38A.2-7]

in the rest of the game the standard lexical items selected for referring to a switch point remain "special square", occasionally abbreviated to "special".

Similar convergences of term selection occur for each of the other relevant entities also. Barriers may come to be called 'barriers' or 'gates'; the players' goals become 'goals', 'homes', 'asterisks', and so forth; a player's position might simply be

identified by 'where I am' or 'where you are' or, more indirectly, as in the case of the use of 'asterisk' for goal, by referring to the symbol displaying the position on the screen. In addition, expression selection can have consequences for grammar as well as lexis. For example, a common alternative for talking about switching is to use the verb "change" with the player affected as direct object; this gives rise to exchanges such as,

B: If you move to the right, you change me
A: If I move to, the right?
B: Uh-huh
A: I change you. Well do you want changed?
B: Well, Aye, change me.

[11D.3]

In protocols where this occurs it is often the case that there is no mention of barriers at all. Players will either say that they are simply "blocked", or that they cannot move in a particular direction. Utterances such as,

B: ...if I move up, then, I'm going near to my target, but then, ehm, I'm faced with three barriers

[44A.3]

are not then found. Of course, the situation is often far more complicated than this. In one game, player A systematically refers to "gates" and player B to "barriers" throughout the entire game, and player B, while usually adopting "S boxes" for switch points, once refers to one as an "S gate" after which A always uses "S gate". Nevertheless, the phenomenon of convergence is quite clear in every protocol; there will always be a large candidate set of potentially adequate descriptions or referring expressions for players to adopt and yet the fact remains that they very soon settle upon a stable set of preferred terms which remain in force, if they do not lead to subsequent confusion, for the duration of the game.

Anderson (1983) also shows that essentially the same phenomena manifests itself at a higher level in the organisation of the protocols; for example, one task that players of the maze game must be able to perform is the satisfactory identification of specific positions within the maze. As is probably evident from the examples of protocol segments given in previous chapters, one particularly effective means of performing this task is to adopt a 'co-ordinate system' of some kind; this may either be quite explicit, as in

A: I'm in 3 0, and it's your turn to move, and you're in 4 1, right?
[44A.4]

A: So you're now at D1 are you?
B: uhhuh
A: And I'm in B5.
[20B]

or implicit, as in utterances of the form,

A: Wait a minute you on the 3rd column 4th up?
[P1.16]

B: so I'm in the 3rd row, 3 in.
[11D.8]

The important point here is that players are not free to choose any form they care to when they use a maze position description. The descriptions available for use are always restricted to just those that conform to the general features for descriptions that are current at that point in the game.

This can easily be shown to be far more than a 'stylistic' variation, or an indeterminacy in form selection, by the fact that if players do not respect the constraints in force they then run the very serious risk of being misinterpreted; i.e their *meaning* will not be clear. A player only has the right to expect to be understood as

long as s/he conforms to the sanctioned forms of expression. As an example of this, the two lists below contain a selection of the expressions used by two particular sets of players to refer to positions within the maze. Each column contains the expressions used by a *single* pair of players during a single game. Different people were playing in each game and in both games the players elected to use a co-ordinate-like system for identifying positions.

Pair 1 [P1]	*Pair 2* [44A]
the bottom one	the bottom row
the 3rd	the 4th block
2nd column bottom one	the 3rd one
5th column 3 boxes up	4 along 3 up
4th column 3 up	2 1, 3 1, 2 3, etc.
the top box	the bottom row 3 along
5th column along bottom	top row 5th along
2 up	the 2nd box

Now, there are certain regular features shared by the members of each set. For the first pair: whenever a specification including both column and row is given, the column precedes the row; the word 'column' almost always appears when it is relevant; when a substitute form such as 'one' is used it substitutes for 'box' not 'column'; the specification of the row includes the direction 'up' unless it is the 'top' or 'bottom' row that is specified; and the column specification is usually an ordinal while the row specification is usually a cardinal. For the second pair: co-ordinates are often explicitly used; when co-ordinates are used the column precedes the row, otherwise the row precedes the column; the co-ordinate form is occasionally expanded to something of the form 'X along Y up'; the word 'row' almost always appears when relevant and co-ordinates are not being used; and when a substitute such as 'one' appears it replaces 'box' or 'block' not 'row'.

These features are employed productively by each pair of players; that is, it is often not possible to move an expression from one set to another without changing its meaning: e.g. for the first pair '2nd box' can only mean '2nd box up' whereas, for the second pair, it can only mean '2nd box along'. Thus, on the one hand, when a player from the first pair says,

there's there's just a box separating me 'n that

to express the position of that player relative to his/her goal, this means, for *both* players, that the player and his/her goal are separated along the vertical dimension. On the other hand, had a player of the second pair said this it would have been far more likely to refer to a separation along the horizontal dimension.

The existence of particular forms of expression that are only appropriate in the contexts of particular games - or, more accurately, in the contexts of particular *interactions* - demonstrates that there is some activity in process whereby 'theoretically' possible forms are being restricted to actually relevant forms. Furthermore, this activity appears to be one of *negotiation*; again, this can be quite explicit, as in:

B: ...Now I'm on the 4, 4 0 OK?
A: OK
B: so,
A: Are we calling that zero then, instead of one? (laughs)
B: Well, what do you think? Bottom, just the bottom row, number four, OK?

[44A.1]

B: what you mean is we'll go along from the left OK it'll be easier that way
A: from the, no it's not easier for me
B: yes it you might as well
A: OK

but, more commonly, the negotiation is quite implicit in the interaction. After a few turns a preferred range of expressions will have been established but the exact details of how that came about will not be reflected explicitly in the subject matter of the utterances performed. It is the dynamics of correlations such as these that constitute the microregister concept.

The important consequences of this as far as specifying chooser questions is concerned is that it is not even possible to construct the 'presentation specifications' necessary for many choosers to function. Chapter two briefly introduced the presentation specification construct: "Through presentation specifications the environment designates the content to be conveyed in each particular constituent, (but not how the content is to be expressed)." (Mann, 1983a, p3) Mann suggests that the presentation specification is particularly useful in that it represents the content "without its allocation to constituent units." (*ibid.*) This is supposed to make available a line of inquiry which asks how such allocation is to function, although the kind of modularity this assumes has been criticised throughout this thesis.

> "Competition among the possible constituents of a nominal group for representation of possession seems to be a typical case. We would like to know, for example how the decision between using the determiner "his", the prepositional phrase "of his", and the clause "which he has" is made. A presentation specification can say in a syntactically neutral way that possession is to be expressed." (*ibid.*)

However, *how* content is to be expressed is *not* a local issue for which the grammar can be expected to provide the 'right questions'.

For example, it may be necessary, due to the way an interaction has proceeded, for a preference to be expressed as to which of the possible forms for possessives is to be adopted in some particular case; the presentation specification, apparently, should not be able to perform this function as 'syntactically neutral' 'possession' has been singled out as the relevant primitive at the presentation specification level. I am unclear quite where the warrant for proposing such form-free meanings resides. Of course, informally it could be claimed that the alternatives offered are possible ways of expressing a single environmental distinction; but, as the negotiation of forms of expression in the maze game protocols shows, possible ways of expressing environmental/contextual distinctions can, and frequently are, *created* and given quite particular *meanings* by discourse participants in the course of interaction. The three alternatives proposed for possession may well find themselves performing quite different work if situation-specific 'meanings' are created for them. Prior to the interaction, it cannot be known precisely *which* alternate forms will be selected to carry the necessary contextual distinctions. In general, therefore, it is not possible to presume that the forms which compete for the expression of such distinctions will be just those forms that may be said, under some situation-neutral interpretation, to express the same 'content'.

The presentation specification can also be seen as offering a mechanism by which the grammar may import a situation-specific state of affairs for interrogation in situation-nonspecific ways. That is, meaning is given to chooser questions of the general form 'is it

relevant to mention X?' by defining relevance as presence in the presentation specification. A representative sample of chooser questions of this form is given by the following examples, all taken from grammar-environment dialogues reported by Mann and Matthiessen (1983b) and Mann (1983a):

> 'Is it preferable to express the knowledge represented by GREENWICH (LOCATION) or not?'[3]
> (Mann and Matthiessen, 1983b, p31)
> 'Is it preferable to mention SIR-CHRISTOPHER (AGENT) as the agent of GAZEBO-BUILDING (PROCESS)?'
> (*ibid.*, p38)
> 'Should a secondary speech act be performed in conjunction with WREN-GAZEBO (ONUS)?'
> (*ibid.*, p43)
> 'Should GAZEBO-BUILDING-POLARITY (POLARITY) be given distinguished emphatic or contrastive status?'
> (*ibid.*, p48)
> 'Establish that information about the possessor of APPOINTMENT should be expressed.'
> (Mann, 1983a, p9)
> 'Establish that the presentation specification for APPOINTMENT does not indicate that color, location, use, substance, size, place of origin or age should be expressed.'
> (*ibid.*, p8/9)

It should be clear from these inquiries that the level of detail expected of the text plan and presentation specifications is very high. This has to be the case because of the necessary generality and topic-*independence* of the grammar and hence of the choosers: they have to ask every question which could conceivably be relevant. But, as we have seen with respect to the selection of *interaction specific* forms of expression, lexicogrammatical feature selections may also carry meanings which arise out of the functional orientations of specific situations. The problem then is to find what sort of questions one could possibly make choosers ask to deal with this kind of meaning.

---

3. It will be recalled that this notation, 'H (F)', is used to

As an alternative approach to this set of problems, however, I will pursue the line of inquiry I suggested would be necessary in chapter two: i.e. the acceptance of sources of initiative additional to that supplied by the choosers. With this in mind, the role of register will now be strengthened considerably. Rather than it being a very weak inter-stratal constraint that is only called upon to do any work when all intra-stratal, i.e. lexicogrammatical, constraints have been applied as is the case presently envisaged in Nigel, it instead can be incorporated in the negotiation of finer and finer individualised registers, the 'micro-registers', so as to tailor the resources of the linguistic system to the specific needs of the situation. This is made possible by extending the definition of situation type to include a continuum of situation types ranging from the anonymous to the highly individualised. Registers as more normally defined are then merely the default organisation a situation type brings to bear before the participants have taken that situation over and made it their own.

The central concept to which I will appeal here is the **pre-selection configuration**; this is to be held responsible for phenomena along the entire register-microregister continuum. Essentially, this construct aims to include within a Nigel-like framework a mechanism capable of capturing the simple characterisation of register I gave above, i.e. whenever contextual

---

denote the environmental hub named 'H' which is currently associated with, and hence made accessible to the grammar by, the grammatical function 'F'.

features F occurs, so do linguistic features L_1, L_2, ..., L_n, in terms of pre-selection as it is already defined in Nigel; all that must be added is a set of realisation statements associated with contextual elements rather than solely with lexicogrammatical features as is the case at present. The effect of such statements would be to predispose a wide range of grammatical systems to select some particular restricted set of the choices theoretically available to them; also, because the actualisation of the grammatical networks always proceeds in relation to some specific area of the context (e.g. the 'hubs' in the environment), such pre-selection is not a 'general' restriction on what features are to be selected but is rather a specific call for particular features when realising particular contextual distinctions. A preselection configuration, as I am using the term here, then, will refer to the set of preselection statements that is associated with a particular contextual element.

Thus, the use of a co-ordinate system by players in the maze game, for example, may now be seen as the systematic association of some identifiable aspect of the 'context[4] with a particular preselection configuration to do with realising or expressing that aspect. It should be noted that this is exactly analogous to the traditional conception of register and it therefore remains diatypic variety, although on a somewhat smaller scale. Furthermore, as has been demonstrated, the entire area of preselection to be associated with an aspect of context is *subject to negotiation*. The players need not adopt a co-ordinate system and, even when one is adopted, further details may still be needed to be made explicit and be agreed upon.

This notion begins to do considerably more work when higher levels of organisation are considered; for example, I have noted Anderson's result that players do not necessarily come to negotiate a co-ordinate system - indeed, there are several general schemes of descriptive apparatus players may employ. The selection of these general schemes can be viewed in precisely the same way, and exhibits precisely the same phenomena, as the negotiation of particular forms of co-ordinates. This is shown most clearly in the investigations of maze game protocols undertaken at Glasgow where several possible types of descriptive apparatus were revealed. In particular, Anderson has demonstrated by detailed statistical analysis that the description scheme adopted by a player in any game will more closely resemble that of his/her partner in that game than those schemas used by him/herself in games with other partners. The selection of description schemes must, therefore, be seen as an achievement of individual interactions *between* players rather than as a prespecified adoption of some scheme according to personal preference. This can be taken as good experimental evidence for the existence of the microregister phenomenon.

Even when a description scheme becomes totally unwieldy,

---

4. Such as elements of the functional decomposition of move segments given in chapter three above. Contextual stratum functions and their organisation have not been considered in any depth in this thesis because of the centrality of *discourse* as the topic of discussion. Possible articulations of their organisation have been suggested in, for example, Turner (1973) and Cook-Gumperz (1972), among others; they suggest networks of 'social potential' that include "such details of particular cases that we would find it relevant to take notice of in our everyday life." (Cook, 1969, p135)

players will still attempt to make it work due to the force of the established pre-selections - to overcome those pre-selections and establish new ones requires more conversational work than players are generally willing to undertake and is only attempted in the face of severe communicative problems, even then perhaps only after several failed attempts within the old system:

A: Where are you yourself?
B: I'm er, well you know how, well it's difficult ehm you know where the middle right indicator is?
A: Yes.
B: Well count that middle right indicator as a box.
A: Mm,
B: Then move to the left, that's one box, two boxes, three boxes, four boxes, five boxes right.
A: Yes.
B: I'm in the fourth box.
A: I'm lost I'm lost I'm lost.
B: The middle right indicator OK?
etc.

[40B]

This consideration of descriptions emphasises precisely the range of explanations with which the microregister concept is to compete. Whereas it is possible to view the selection of description scheme in 'psychological' terms as a particular organisation of an individual's knowledge base, the microregister places the description scheme at the interorganism level by interpreting it as a *shared orientation of the available linguistic potential*. Rather than using, for example, a 'diagonal vector' description, because that is the way the knowledge base has managed to organise its view of the maze, the description scheme adopted should be seen as a direct consequence of how the discourse itself has been constructed and the shared linguistic potential focused. This clearly establishes that variation in the language that is used of this sort cannot in general be looked

upon as 'mere' stylistic variation lacking significance for what is taken to be the main work of communication - transmitting information.

Neither is it possible to assume that the language that is used is simply serving as a translation of the underlying level of knowledge representation and plans where the 'real' work of playing the maze game is being performed. Plans may be, and frequently are, constructed by the players in order to achieve goals within the game. But those plans are necessarily articulated in terms of those players' understanding of the game situation in which they find themselves and, crucially, that understanding can now be seen to be articulated in turn in terms of the mutually constructed view of the game that is supported in the players' linguistic interaction. Antecedently-given plans are not being 'dressed up' so that their surface linguistic realisations are appropriate - it is only from that 'surface form' and in its terms that plans are created. As was the case with 'focus' in the previous chapter, the establishment of a description scheme in particular, and microregister in general, is but another aspect of the intersubjective work that discourse achieves.

Diatypic variety, in general, therefore remains characterised as the regular association of contextual items with preselection configurations over the linguistic potential that is available, but the continuum of situation types within which such contextual terms are placed results in differing statuses of association. When the

association is entirely subject to convention and the individual is not free to alter or ignore it without expecting marked consequences to follow, then the preselection constitutes a register in the traditional sense. In this case the preselection is itself given social significance and its use has the power to generate the situation-type with which it is associated with little or no support from the context that is actually in force. Thus, in a play or a novel, or in everyday conversation, it is possible to evoke a situation-type such as sports commentary, a religious service, eating at a restaurant, etc. merely by using the form of language typically associated with that situation. Whereas, when the association has not been made subject to convention in this way it becomes necessary to negotiate both the area covered by preselection and the contextual items with which it is to be associated. The preselection configuration is a temporarily agreed way of saying, or better, following Halliday, of meaning the things that need to be expressed in a particular situation or range of situations. In this latter case much more support is required of the situation-type in force. Without the agreed upon context, the use of some linguistic potential constituting a preselection configuration would be insufficient to effect communication; for example, a maze game player would not in the middle of a game be able suddenly to start using co-ordinates when no such system had been agreed upon previously.

It is possible, then, to represent the distinctions between differing points on the scale of diatypic variety solely in the tying of linguistic potential to more or less general situation-types.

Registers are preselection configurations that are associated with situation-types of very general application, in effect, conventionally. When an individual supports such a situation the relevant potential is preselected and so appears for the speakers in that situation to employ; conversely, the apparent use by an individual of linguistic resources within a recognisable preselection indicates that the associated situation is then relevant. For less general situations there will be fewer established preselections and individuals supporting them consequently need to generate their own in order to communicate most effectively within its confines. By most effectively I mean that the converse posited to hold for registers should also be applicable here: it is the alignment of the perspectives held by participants in a context that constitutes communication and the establishment of a locally negotiated and accepted area of linguistic potential for expressing just what is necessary for that context renders the maintenance of that alignment via language particularly effective. This process can be seen, then, to be one of fine tuning the general resources language provides so as to be able to maintain that explicitly shared context necessary for coherent joint action with the greatest economy of effort. This framework must distinguish therefore between 'locally' relevant functional organisations of resources, which will be represented by preselection configurations, and those much more generally applicable resources which provide the basis for that preselection, i.e. the linguistic potential itself.

It should be pointed out that there is a clear overlap in

function between Nigel's presentation specifications and pre-selection configurations. However, there are two important distinctions between the two; the first is that pre-selection configurations are not to be restricted to *content* and include *how* that content is to be expressed, and the second is that the preselection configuration is an *active* entity which directly affects chooser operation. In both respects, it has been shown that it is the preselection configuration which offers the more explanatory view. For example, although it is clear that Mann realises the difficulties involved in the selection of particular forms over others theoretically appropriate, his proposed solution does not sufficiently cover those difficulties; e.g.

> 'The sets of terms which compete as candidates, e.g. for the main verb of a clause or head term of a nominal group, are highly variable and dependent on the subject matter of the communication. Hence they are not susceptible to static analysis as part of the grammar, and they are not easy to represent in systemic terms.' (*ibid.* p4/5)

Candidate terms are *not* dependent upon subject matter (i.e. ideational aspects), they are, as I will suggest in the Conclusion, dependent upon *topic*. This includes many aspects in addition to the ideational and is more adequately described, as I will suggest, as a general orientation of the linguistic resources which exhibits sensitivity to topic. Therefore, pre-selection configurations, by virtue of their generality and their relatedness to topic phenomena that I will justify below, largely subsume the presentation specification construct and provide a more appropriate basis for the generation of term sets.

It will not be possible to 'define' individual pre-selections

here in any detail since this would require a complete description of the lexicogrammatical level of organisation and its associated choosers. Nor, in general, would this be a particularly useful step to take. The particular pre-selections which may be called for are to a large extent irrelevant; it will be necessary for *some* pre-selections to exist - it is this that makes the linguistic system responsive to the tasks that will be required of it - but precisely *which* pre-selections will be in a state of constant flux. What will be important below, therefore, is *how* discourse participants can establish pre-selection configurations in their interactions and this is the issue addressed in the next section.

2. Discourse development - the creation of microregisters

So far in this chapter, I have attempted to show that there is a pervasive phenomenon of microregister at work in discourse for which the notion of the pre-selection configuration suggests a possible account. Now, I will combine some of these elements and investigate how the discourse-functions discussed in the previous chapter achieve microregister orientations in practice, i.e. how pre-selection configurations are to be established, and how these might subsequently help to constrain 'topicality'. This is to take the phenomenon of 'convergence' observed by Anderson and others considerably further so that it may eventually be linked to the fine-detailed discourse organisation constructed by speakers when interacting and explained as a positive resource in the maintenance of that interaction.

It should be clear that just to use some form is not sufficient to freeze it into the highlighted linguistic resources that constitute a microregister; the initial questions which must be asked, therefore, are which aspects of discourse help fix the microregister, which do not, and why. To attack these questions I will consider in the remaineder of this chapter three areas of use for maze position descriptions: the first proposals of terms of reference found within the initial segment, successful subsequent use and, finally to conclude the chapter, places where difficulties arise which indicate that a change of terms may be necessary.

When a maze game begins the players know that they must communicate their respective positions; they also tend to communicate the positions of their goals although this information is not quite so relevant at this stage. It is readily noticeable that the person who makes the first moves towards ascertaining these positions frequently also attempts to define the terms that will be used. Furthermore, the players will subsequently tend to utilise the resources proposed in these initial moves rather than presenting new possibilities; new possibilities will appear, but usually these will be integrated into the supporting framework the established possibilities provide. The following initial segment of protocol 11F demonstrates these features nicely.

1	B: Right, where are you at the moment?
2	A: Right now I'm down the bottom,
3	B: Right.
4	A: To your left,
5	B: Right.
6	A: And er, go to the-the middle one on the left,
7	B: Right,
8	A: On the bottom and up one
9	B: Ah, so you're er, 2nd row from the bottom.
10	A: I'm 2nd row from the bottom,
11	I'd be}-
12	B: {2nd in from the left
13	A: 2nd in from the left, OK.
14	B: Right, ...

Protocol segment: 11F.0

Here, in lines 2-8, A presents a relatively complicated description of his/her position which relies upon access to the display of the maze for it to be successfully decoded. A first homes in on a particular position that may be identified by virtue of the maze configuration (line 6) and then specifies his/her position relative to that (line 8). Although this succeeds in locating the position B requires to know, B begins to present an alternative, more concise description in line 9. A accepts this in line 10, realises an alternative specification is in progress and attempts to complete it. B, however, interrupts and provides the completion which A again accepts (line 13). The only aspects of A's description that survive are the orientations towards the bottom and the left of the maze. This can therefore be viewed as establishing a schema for position specification of the form:

{Player X is at position P =,
M rows from the bottom,
N in from the left}

This is an example of the 'preferred form' for propositions that

serve this particular position-specifying function that was made use of in the previous chapter. Now this should also be seen as a shorthand notation for the preselection configuration to be associated with the contextual function 'identify a position'. In its full form it would list the detailed lexicogrammatical feature choices that give rise to forms of the observed kind. This list would naturally alter as the microregister evolved.

Thus, when B comes to specify his/her position, the orientation to the left is not so convenient and, apparently due to the position of strength B seems to possess at this point in the discourse, s/he is able to replace the schema-part 'N in from the left' with 'N in from the right' thus:

B: Right, well I'm at the top, right?
A: The top
B: ehm, 1, 2, 3 in from the right.
A: Mmm-hmm, is that it?
B: Aye, ...

[11F.O]

Now, the force of B's selection of description schema is shown in the exchange of information that follows; B asks A for the position of his/her goal and A not only gives this information in the terms of the new schema but also spontaneously volunteers a respecification of his/her own position in those terms.

B: Aye, and my-, right, where's your goal?
A: My goal's just one across from you.
It's 3 in from the right,
I'll be 4 in from the right.

However, even in situations such as this where one player is defining the terms, there is still a two-way interaction because in B's next turn, which volunteers the position of his/her own goal, s/he echoes

the initial structure of A's turn before giving a further specification in the terms of the established schema:

B: Right, well mine is 1, 2, 3 across from you.
A: 1, 2, -{
B: {which is 2nd row, two in from the right.

1	B: ... where are you?
2	A: Right. Ehm. Last, right,
3	see how there's a box jutting out
4	on the right hand side of the s{creen
5	B: {yes
6	A: Well, uh, there's a column before that
7	you know
8	w{ell nearly full column right}
9	B: {yeah {yeah yeah
10	A: I'm on the bottom one
11	B: Well well just call them columns OK every=
12	A: OK OK, OK right so the 2nd column bottom one=
13	B: what do you mean the sec-}
14	A: {second from the right=
15	B: What you mean is we'll go along from the left
16	OK it'll be easier that way
17	A: from the, no it's not easier for me
18	B: yes it you might as well
19	A: OK uh 5th column along bottom=
20	B: right bottom?
21	A: uhhuh
22	B: OK

Protocol segment: P1.0

A similar initial request for a possible specification followed by a respecification is apparent in the segment P1.0 above. Here B's taking on the responsibility for defining the terms is even more explicit, as shown in line 15's 'what you mean is ...'; such a move does not betoken an equal relationship between the participants at that point in the discourse. Indeed, in the previous chapter we saw how there were many indications in the *form* of this interaction that

B was attempting to take the initiative and control its development. Now we can see that this extends to more than just the interaction, it also includes the definitions of the terms of reference that are to be used during the game.

The establishment of these terms proceeds as follows: A in line 4 mentions the right hand side of the screen, this is clearly not adopted as the shared orientation because of B's comments at lines 13 and 15; A in line 6 introduces 'columns', this is accepted explicitly by B in line 11; that columns should be counted from the left is proposed by B at line 15 and accepted by A at line 19; and finally, A's reference to the 'bottom one' at line 12 is accepted unchallenged by B and explicitly used by B at line 20. The state of the description schema following line 20 is then:

```
{Player X is at position P =,
        M columns from left,
        [bottom]}
```

And so, while an explicit general form has been established for the horizontal dimension, all that has been achieved for the vertical dimension is an orientation towards the 'bottom'. It is therefore predictable both that the next position specification should result in the establishment of a more generally appropriate schema and that, in the absence of a general specification at the outset, the players would resort to more ad hoc types of specification. Protocol P1 continues as follows:

```
B:      {OK
A:      {Where are you?
B:      I'm in the 1st column,
        you know how there's three boxes
A:      uhhuh
```

B: I'm in the centre box
A: (quietly) in the centre box alright

B refers to a maze specific configuration of 'three boxes' and, although this does not itself generate an acceptable schema, it does provide the resources for one to follow subsequently. Both A and B have adopted 'boxes' as the description of the elements which constitute columns and the pre-existing orientation to the bottom makes counting upwards the logical choice. The next position specification is, in fact,

A: I have to get to er, 2 boxes above me,
that's the 5th column 3 boxes up.

and the general description schema has become:

{Player X is at position P =,
M columns from left,
N boxes up from bottom}

It is possible at this stage to suggest several factors which contribute to the acceptance or nonacceptance of description schema elements. First, it seems that if there is a player who is taking a strong initiative, as is also revealed by a variety of interactional details, then the terms s/he proposes will be good candidates for adoption in a lasting description schema. Also, if a player who is not in the initiative-holding position uses a term proposed by the player who is, then this almost guarantees the acceptance of that term as an established resource for subsequent position description. This is not a symmetrical relationship; even though the player with the initiative may use a term provided by the other player, this does not necessarily indicate that the term will occur again.

There is, furthermore, a tendency for the expression of the description schema that is accepted to occur in specific discourse-functional environments. In the first example above, segment 11F.0, the actual expression of the schema is given by player B in lines 9 and 12:

> so you're, er, 2nd row from bottom. ...
> ... 2nd in from the left.

The discourse-functional characterisation of this segment can be summarised as follows. B asks where A is in line 1 and A responds, at length, in lines 2-8; this is essentially a question-answer sequence with the answer proposition being replaced by a thematic sequence.

	k2		k1.c			k1.c		k1.c		k1
	pb_1		pc_1			$pc_{1.1}$		pc_2		$pc_{2.1}$
	mi		mii	->		miii	->	miv	->	mv
	1		2	3		4	5	6	7	8
right	$base_1$		$base_2$	*right*		$add_{2.1}$	*right*	emb_3	*right*	$add_{3.1}$ (=$add_{2.1}$)

The design of the move at line 8 both indicates that this contribution is the last of a sequence and links back to move mii by the repeat of 'bottom', thus helping bind moves mii-mv into a unit with respect to mi. Now, following that unit, B has the options relevanced by the potential k2f-slot; but rather than just accepting the information, s/he chooses to *respecify* A's answer. This in fact constitutes a k2f.c move: the 'exchange' is not being permitted to end at this point, it is being extended. The characterisation of lines 9-13 is then:

k2f.c		k1	k1		pk2f		k1
pc_1'		ps_1'	pc_1'.1	-	pc_1'.1		ps_1'.1
mvi		mvii	mix		mix		mx
9		10	11		12		13
$pre\text{-}base_4$		rep_4	$pre\text{-}base_5$		$add_{4.1/5.1}$		$rep_{4.1/5.1}$

It should be noted that this use of a k2f.c move is somewhat different from those seen in the previous chapter; player B is using a move that indicates there has been some difficulty in the exchange even though A has successfully communicated the information requested. The existence of the k2f.c slot might then be glossed as capturing the fact that the person who is informed has a general right to assess the adequacy of that informing.

Similarly, in the second example, segment P1.0, A gives a lengthy response to B's request for A's position which B does not allow to go unchanged. However, in this case, B's respecification is extremely abrupt and clearly demonstrates the position of strength s/he is adopting. The discourse up to the first respecifying move may be characterised thus:

k2	k2	k1	k1	[k2	k1	]	k1	k2f.f	k1
pb_1	pc_1	ps_1	pc_2	[pc	ps	]	pc_2'		pc_3
mi	mi_I	mii_I	$miii_I$	[mi'	mii'	]	$miii_I$	miv_I	mii
1	3-4	5	6	[7	9	]	8	9	10
$base_1$	$base_2$	*yes*	$base_3$	[*you know*	*yeah*	]	$mod_{3.1}$	*yeah*	$base_4$ (=$mod_{1.1}$) *yeah*

Now, even though A has brought the insertion sequence of moves mi_I-miv_I to a close and answered B's original question, B's next move does not display orientation to that answer at all and, instead, links itself (by the use of 'them' and 'columns') with A's last pre-answer move, $miii_I$, thereby extending that pre-answer sequence and making A re-do the answer. This gives lines 10-12:

A: I'm on the bottom one.
B: Well well just call them columns OK every=
A: OK OK, OK right so the 2nd column bottom one=

B's move is one way of achieving a side sequence and it, again,

occupies a k2f.c slot. Also, as the turn initial 'well well ...' suggests, this move can be regarded as a retraction of B's previous miv_I/k2f.f at line 9. The discourse therefore continues as:

[k2f.c	k2	k1]		k1
[pc_{2}''		ps_{2}'']		pc_{3}'
[miv_I	mi'	mii']		mii
[11	11	12]		12
[$base_5$	*OK*	*OK OK*]	*right so*	$mod_{4.1}$

B does not accept this attempt by A to answer the original question of mi either, and follows A's second mii with another nonfinal follow-up k2f.c move:

13 B: What do you mean sec-

A sees the inadequacy of his/her specification and interrupts with a self-repair but B overrules this and proposes an alternative form of specification with the uncompromising:

15 B: What you mean is we'll go along from the left
16 OK it'll be easier that way

A attempts to disagree with B's proposed description schema at line 17, but B will brook no disagreement and simply asserts at line 18 that his/her position is the correct one, receiving A's consent at line 19. The side sequence of lines 15-19, carried mostly by the moves mi'-mv', is then complete, a new description has been established and A finally achieves an answer to B's original question which B lets pass. These final moves of the segment are classified as depicted in figure 1 which, for ease of reference, interleaves the actual utterances with their discourse-functional representations.

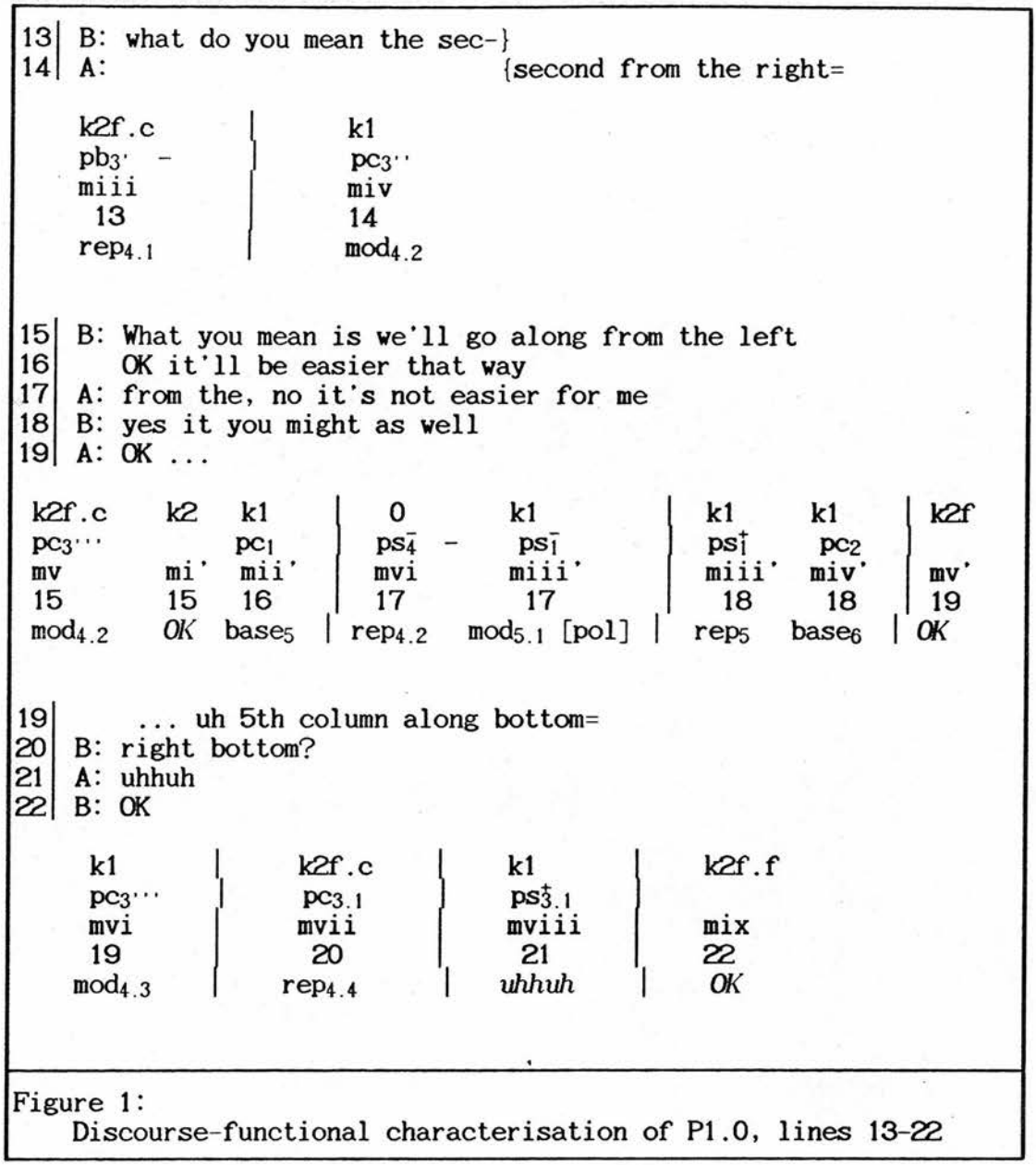


Figure 1:
Discourse-functional characterisation of P1.0, lines 13-22

What these analyses demonstrate is that as well as having clear consequences for the subsequent construction of sequences of turns, the selection of particular discourse-functional types of contributions establishes more globally-active constraints on the design of contributions that will be considered appropriate for achieving particular specified activities required by the situation.

The discourse function characterisations of the moves which successfully propose the description schemata that are accepted in the two cases given within this section, for example, are as follows; in segment 11F.0, lines 9 and 12:

$$k2f.c/pc_{1}\cdot/mvi \ \ldots \ pk2f/pc_{1}\cdot_{.1}/mix$$

and in segment P1.0, lines 11 (proposing 'columns') and 15 (proposing counting from the left):

$$k2f.c/pc_{2}\cdot\cdot/miv_{I} \ \ldots \ k2f.c/pc_{3}\cdot\cdot\cdot/mv$$

The combination of the k2f.c and pc micro-functions can, therefore, be seen to be an effective resource for achieving this kind of work. It manages both to express the necessity of repair in the preceding exchange and, by the proposal of a completed proposition, to leave no doubt that an alternative is available. Furthermore, in the first example, the pk2f-variant further emphasises that B is in control and the preceding k2f.c is in no way passing the initiative for repair back to A.

This general configuration also seems to occur even where the difference in the initiatives taken by the players is not so marked. For example, in 11D.0, the first specification of a position is again by A in response to a question from B:

A: I'm at the, left hand corner.
B: Right.
A: One along, one up.
B: One along, one up?
A: Yeah.
B: Well ...

[11D.0]

which gives the discourse-functional characterisation:

k1		k1	k2f.c	k1
pc_{1}		$pc_{1.1}$	$pc_{1.1}$	$ps^{+}1.1$
mii	->	miii	miv	mv

By move miv the schema is fixed as an available resource as evinced by B's subsequent move:

B: Well I'm in the right hand corner,
one along one up

It is noteworthy that this case could be analysed as simply a case of syntactic parallelism arbitrarily produced by the speaker for 'stylistic' or 'ease of processing' reasons; here it has been shown as an instance of a rather more general utilisation of discourse resources that may be regularly observed in the maze game protocols to perform quite specific conversational work. The choice and pursuit of sequences containing the kinds of discourse contributions shown in this section to be effective for fixing microregisters can, therefore, be undertaken by discourse participants specifically to help construct shared views of a problem domain or area of interest.

3. The maintenance of microregisters

Once an initial description schema has been established this is by no means the end of the matter however; in fact, the initial schema can be shown to be more of a special case because it is only there that a schema is to be created from scratch. In subsequent uses of the schema various changes commonly occur and, again, the question to be raised is whether there are discourse environments particularly suited to such changes.

We have just seen how following the identification of the first maze position a schema of greater or lesser generality may be

established. In games where a co-ordinate-like description is chosen early, the schema can become very general and detailed very quickly; but in games where, for example, a figural approach is taken, the schema may not advance much further than: 'use a figural description' and the explicit negotiation of details found in the above case will not then be so likely. In the discussion of P1.0 it was noted that following the first position specification an explicit schema-part for the vertical dimension was still required. The progression to the establishment of this schema-part displays aspects of both initial and subsequent schema use. B's first response relies upon a configural element as is common when there has not yet been a more general schema established:

B: I'm in the first column.
you know how there's three boxes
A: uhhuh
B: I'm in the centre box
A: (quietly) in the centre box alright

This is represented by the discourse functions:

k1	k2	k1	k1	k2f.f
pc_1	pc_1	ps_1	pc_2	
mii	mi_I	mii_I	miii	miv

Here, the first introduction of 'boxes' into the schema occurs at mi_I and, due to the k2-status of this move, it is not possible for the discourse to proceed unless 'box' is also accepted. Thus, the ps_1 of mii_I cannot occur if A is going to challenge that usage subsequently; A's repeat of the term at miv then establishes it explicitly.

The absolute maze position specifications that occur throughout the rest of this protocol are as follows:

A: that's the 5th column 3 boxes up.
B: I have to get to the 4th column / uhhuh / 4 up
A: 4th column bottom

B: so you are now sort of 4, / 4 on the bottom uhhuh
A: we're in the same column right? / yeah / third
B: I'm in the top box you're in the bottom box
A: I'm in the 4th column 2 up
B: right see I'm at the 3rd column / uhhuh 4 up
A: Wait a minute you on the 3rd column 4th up?
A: Cn. tt. 4th column 2 up
B: 3 4. I mean 3 at the top.
B: so you'll be in the 4th column 3 up

And, as the work upon the protocols of Anderson (1983) and others has shown, this type of homogeneity is completely typical. There are no sudden references to '3rd box down' for example, or even changes of ordering between the columns and the boxes; the procedure remains unaltered once established. The normal use of a schema can therefore be seen as one of minor modification rather than of large-scale change. Modifications such as these can be captured by reference to the requirements of lexicogrammatical modification introduced in the previous chapter. For modification to be effective, it is necessary for sufficient contextualising information to be given to place the modification's lexicogrammatical retractions and restatements. Furthermore, sufficient, here, may be defined with respect to the current preselections governing the choice of expression.

Preceding the first of the above list of position specifications, for example, the following preselection schema was shown to be active:

{player X is at position P=, M columns from left, bottom}

The lexicogrammatical details of the preselection should ideally also be defined but, as I explained above, this can only be done properly in relation to a full specification of the lexicogrammar; the details given here, therefore, are intended to be suggestive of the approach

to be adopted rather than a definitive account. To begin with, in segment P1.0, each dimension of the position specification was realised separately in, at least, two distinct nominal phrases. But with the first position specification of the above list, the preselections are supportive of a simplification and both dimensions appear within a single nominal phrase, the vertical dimension being realised as a 'post-modifier':

5th column 3 boxes up

The preselection can be described then as an association between established 'background' entities and certain paths of lexicogrammatical actualisation; modifications are defined with respect to those paths. The second specification of the above list then displays a modification in the post-modifier and this survives for the rest of the game.

Two directions of simplification often occur in this type of context; either the dimensions are combined as here, in which case some vestiges of the original form are usually preserved (e.g. 'column' and 'up'), or the dimensions remain distinct nominal phrases and each may be simplified maximally arriving, eventually, at explicit co-ordinates. This has occurred, for example, in the protocol[5] from which the following position descriptions are taken:

2nd from the left and 2 up from the bottom
2nd column and 2 up
column 2 box 4
row 3 box 3
4 4
3 3
5 4
etc.

5. Cited by Simon Garrod, School of Epistemics Seminar, April 27, 1984.

In the former case, it seems that the placing of the post-modifier inhibits the removal of the head noun and a complete co-ordinate system is not achieved; in the latter case, no such difficulty appears.

This development does not appear, then, particularly sensitive to discourse environment. Whenever a position specification is required, the expression selected will conform to the preselection in force. That preselection will also tend to simplify the expressions that occur, within the limits set by avoiding ambiguity and dispreferred forms, by only explicitly realising *contrasts*. Two deviations do occur in protocol P1 however, and these do seem to have at least been triggered by the discourse context.

The first instance occurs in the environment of a hesitation:

B: so you are now sort of 4 (1s)
A: 4 on the bottom uhhuh right I'm scoring another penalty point OK?

[P1.4]

It should be noted that by this time in the discourse the relative status of the players has become far more equal. B had attempted to take the first move but was rebuffed by A; furthermore, just prior to the above utterances A had told B where to move as follows:

A: ... and I'll get free,
if you move bac{k
B: {right OK=
A: move back=
B: OK don't shout (1s)

[P1.4]

The utterances of the first instance form a simple check upon A's position, perhaps as much for B to regain face as for information

since A's position had been identified only a few turns before. This is supported by A's response since it runs on immediately into the next move segment. In fact, B's selection of 'so' gives credence to a pc_1/k2f/mi reading for the initial turn which would certainly justify A's immediate continuation and make the discourse characterisation a straightforward:

	pc_1 -	pc_1 ps_1		pc_1	
k2	k2f	k1 k1	*right*	k1	*OK?*
	mi	mii miii		mi	(new 'exchange')

The discourse environment here, therefore, provides a place where the form used is unlikely to be considered salient or 'at issue' while a hesitation on B's part leaves a lexicogrammatical pre-base unsympathetic to the inclusion of the usual head noun 'column'.

The second instance of deviance may be treated similarly. Its environment is a self-repair that is made necessary by a hurried response to a heated question:

B: I can't move up I'm up as far as I can up!
A: How-where are you?!
B: 3 4. I mean 3 at the top.
A: Oh you're kidding ...

[P1.17]

Again the form of the position specification is not made an issue; all that is required is an immediate response.

It is interesting that, whereas in the first case the exclusion of the head noun could have been interpreted as an expression of lack of importance by the player with the initiative, in the second case it may express an orientation by the player in the inferior position towards the need for a quick reply. Thus, the possibility is

suggested of the *use* of a form generating a potential resource which participants can subsequently employ to express required distinctions and deviations from a presumed 'usual' case. But, of course, any such interpretation can only be made with respect to the background of possibility provided by the established norm of the preselection configuration; the need for the participants to be able to establish such norms and to be responsive to their existence is, therefore, again highlighted.

4. The resolution of conflicts between microregisters

The discussion in this section will centre around the slight breakdown in communication from protocol 11D that is presented below. First I will describe the nature of that breakdown and then explain its occurrence by reference to the preceding evolution of the maze position microregister. This will demonstrate that the way the discourse developed not only makes the confusion of one player predictable but also suggests why the other player thought s/he would be interpreted correctly. The argument therefore not only contributes to the preceding elaboration of the connection between discourse-functional resource deployment and contextually-based preselection configurations, but also helps clarify how an increased awareness of the *function* of discourse (both discoursally and contextually) can significantly reduce the complexity of the interpretive work necessary for understanding discourse by means of a more appropriate sharing of the work-load.

1	A: ... Now, can you still change me?
2	B: Er, I can move to the right.
3	A: And change me?
4	B: Will that change you?
5	A: Well, that's, I don't, wh-whereabouts are you again?
6	B: Ehm, one from my goal.
7	2nd row, {3 in
8	A: {can you move down?
9	B: I can move down, aye.
10	If I move down,
11	A: Er, move down, move down.
12	B: Will that change you?
13	A: Aye, move down.
14	B: Right?
15	A: Didn't change me. Hold on.
16	Wh-whereabouts are you? It didn't change.
17	B: I'm in the 3rd row, 3 in, {from the right.
18	A: {3rd row,
19	3rd row. Wait a minute.
20	Is it the 3rd row down?
21	B: 3rd row down.
22	A: Ah no wonder. Right, ...

Protocol segment: 11D.22

In the first four lines A shows signs of not being quite in control of the information necessary for playing the game at that point. A's question of line 1 is reminiscent of an exchange we saw in chapter three in which one player incorrectly allocated the k1 and k2 roles concerning the possibility of switching; there the response of the other player was to correct the misallocation explicitly by means of the contribution:

B: I don't know. Can I? [11F.1]

Here, although the response is more co-operative, it nevertheless 'repairs' A's mistake by, in effect, stating what A's question should have been in order to ascertain the information required. A, however, is still not allocating the knowledge roles correctly and at line 3

attempts to convert B's move into an answer for the initial question at line 1. B at this stage has no alternative other than to allocate the roles directly, as in the example of the previous chapter, with the question 'will that change you?' rejecting A's question of line 3. The discourse-functional characterisation of lines 1-4 is, then, quite interesting in that both players are attempting to guide the discourse as they see it should go and yet still manage to build each contribution into a single, coherent line of discourse development; that characterisation may be represented as follows:

pb_1	pc_2	pc_1	$pb_{3/1}$	
k2	k1	k2f.c	k2	*well*
mi	mii	miii	miii	
1	2	3	4	
$base_1$	$base_2$	$add_{2.1}$	$base_3$	

Thus, B's move at mii attempts to re-classify A's mi as a 'pb_2/k2/mi', but A's move at miii attempts in turn to convert B's mii into a pre-$base_2$ which, when taken with A's addition, would create a $base_2$ expressing a pc_1 - which would complete A's pb_1 of move mi. B has then to extract him/herself from the confusion with a fresh miii.

With the knowledge roles correctly allocated A addresses the next problem: s/he no longer knows B's position and so cannot provide an answer to B's pb_3 at line 4. At line 5, therefore, A initiates an insertion sequence to ascertain B's position. In response, B first gives a position specification relative to the landmark of his/her goal and then attempts to offer a co-ordinate-like absolute specification. This A interrupts at line 8 with the kind of question which s/he should have asked at the outset, i.e. 'can you move down?'. This contribution is not an answer to B's question at line 4

and so helps to repudiate the false direction taken in lines 1-4. The insertion sequence of lines 5-7 is completed but the embedding question is rendered no longer relevant. B's response at line 9 displays that A's question is outside of immediate expectations by constructing the required pc as a full repetition and appending a ps. The discourse-functional characterisation is then,

0	pb_4	pc_4	pc_4'	-		pb_2'	pc_2'	ps_2'
	k2	k1	k1		k2	k2	k1	k1
	mi_I	mii_I	mii_I		$miii_I$	mii	miii	miv
	5	6	7			8	9	9
	$base_4$	$add_{4.1}$	$add_{4.1}$			$base_5$	rep_5 mod[S]	$rep_{5.1}$[S]

B attempts to consolidate this development of the discourse still further but A interrupts ordering B to move down. At line 12, however, B succeeds in connecting the new development with the old by repeating the question put at line 4. This yields:

pb_3'	$pc_3'/1$
k2	k1
mv	mvi
12	13
rep_3	$mod_{3.1}$ (=$mod_{1.1}$)

and converts lines 1, 8, 9, 12, and 13 into a coherent sequence of discourse moves that establishes where B should move to change A. This coherence is represented in the discourse-functional characterisation by the labelling of the ideational and textual layer micro-functions. Extracting these moves from the above results in the straightforward development:

pb_1	pb_2'	pc_2'	ps_2'	$pb_3'/1'$	$pc_3'/1'$
k1	k2	k1	k1	k2	k1
mi	mii	miii	miv	mv	mvi
1	8	9	9	12	13
$base_1$	$base_5$	rep_5	$rep_{5.1}$	$base_3$	$mod_{3.1/1.1}$[S]

A's first move has been interpreted as establishing the purpose of

the discourse at that point and the subsequent moves succeed in bringing the segment begun by pb_1 to a successful resolution in the corresponding pc_1, at line 13.

Unfortunately for A, at line 15 it becomes clear that a mistake has been made and A has no option other than to reassess B's position; B provides this information at line 17. A's response to this simple pc move is the following:

			$pb_{1.1}$
k2f.f	k2f.c		k2f.c
miv	miv		miv
18	19	*wait*	20
$rep_{1.2}$	$rep_{1.2}$	*a minute*	$mod_{1.3}$/mod[Q]
			is it the 3rd row down?

to which B supplies a '$pc_{1.1}$/k1/miv:$rep_{1.3}$', enabling A's k2f.f at line 22. Interesting here is that A finds it necessary to use a k2f.c which extends the proposition offered by B, thereby suggesting that B's formulation and A's interpretation of such formulations had drifted apart. But given the mechanisms of convergence for microregisters that I have described, how did this situation arise?

The first establishment of the maze game specification microregister in this protocol was cited above in section 2's discussion of initial segments; the first two position specifications were as follows:

A: I'm at the left hand corner / ... / one along one up
B: Well I'm in the right hand corner, one along one up

The position specification schema might therefore be represented by:

{Player X is at position P=,
relative to left hand corner,
one along from left,
one up from bottom}

which is proposed by A, accepted by B, and then altered by B (providing grounds for a conciliatory interpretation for 'well') so that 'left' is replaced by 'right'. However, the subsequent design of position specifications shows that this most simple course was not taken by the players. In all likelihood because of the equality of the relationship between these players, the generalisation of the proposed schema typical of the cases I examined above, whereby the schema becomes applicable to *both* players, does not immediately occur. Thus, instead of the single schema presented, following the two initial moves the players appear to have established two *distinct* schemata:

{Player A is at position P=,
one along from left, one up from bottom}

{Player B is at position P=,
one along from right, one up from bottom}

And in the subsequent position specifications, these provide the basis upon which those specifications are understood and constructed; e.g.

B: I'm 3 along. [from right]
A: I'm still on the same row, but 1 along. [from left]
B: That's me 4 along from the, left, from the right.
A: No, I'm 2 along from the left.
B: I'm in the 4th box from the, right.

This is supported further by the fact that the correct schema is used *regardless* of speaker; for example, we find A referring to B's position by:

A: ... are you 3 along now? [from right]

and B referring to A's position by:

B: ... you're 3 along from the left.

This demonstrates again both the *creative* aspects of microregister

negotiation - there can be no guarantee that one particular line of development will ensue regardless of the details of the particular interaction - and the *shared* nature of a microregister.

The next stage in the evolution of these microregisters comes in move segment 11D.8 when B, for the first time since the beginning of the game, supplies an absolute vertical position:

... so I'm in the 3rd row, 3 in

As would be expected for B, the horizontal specification is again relative to the right; while the vertical specification makes use of A's prior use of 'row' and the initial orientation to moving upwards from the bottom of the maze. However, soon afterwards A makes the following contribution in which 'row' is used completely differently:

I'm at the very bottom of that row you're at, you're on,

Here 'row' is being used vertically rather than horizontally as had been the case previously. That this is not a momentary lapse on A's part is shown by the subsequent specification, which runs:

B: Where are you?
A: I'm, see that row you're on?
B: Aye.
A: I'm, at, 2nd from bottom.

[11D.15]

Whether A had misinterpreted B's re-introduction of rows as intending a vertical specification (perhaps because this was the first horizontal specification since the beginning of the game and may, consequently, have been missed), or whether the existence of a distinct schema for the two players interfered with the sharing of a single interpretation, is unclear. Whatever the details may have been, the consequences of this rift are very soon apparent in the

breakdown of segment 11D.22.

The path to that breakdown appears to be as follows. Soon after A's vertical uses of 'row' B contributes the relative position specification:

So, you're 2 below me, 1 2.

Now, this utterance, although apparently harmless and clearly understood by both players, leads to a further divergence in expected position specifications because of the already divergent microregisters with respect to which it is judged. For B, who has used 'rows' successfully as horizontal specification entities, the utterance can be understood as equivalent to the expanded form:

A is two rows below B

Previously rows had been counted upwards from the bottom of the maze but now, as B nears the top of the maze, an orientation towards counting down from the top is found easier; this new, downwards orientation is reflected in this utterance also. But for A, rows have not been associated with the horizontal and so the utterance is not expandable as it was for B. Therefore, not only is the interpretation of 'rows' left in doubt, but also a re-orientation to the top of the maze when considering vertical specifications is not perceived by A. In short, there now appear to be two wildly divergent schemata in use, approximately representable by:

for B: {player X is at position P=,
M rows down from top, N in from right}

for A: {player X is at position P=,
N rows from left/right, M up from bottom}

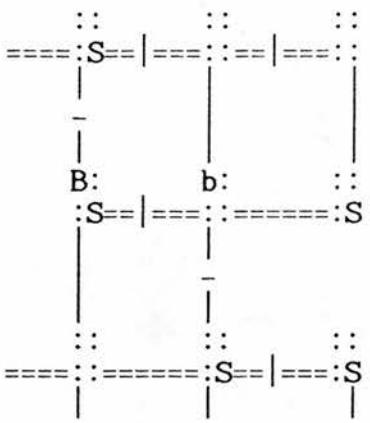
Although there does appear to have been some generalisation and

convergence during the game, for example the orientation to the right comes to prevail, the extent of the incompatibilities present make the eventual misunderstanding inevitable.

When B responds, therefore, to the request for his/her position in line 5 of segment 11D.22 with

7 | B: 2nd row {3 in

A's interpretation is in part predictable on the basis that hitherto position specifications for A had been almost exclusively concerned with the position relative to the left and right and B's "2nd row" appears to A to provide that information. The immediate maze environment of B's position from A's perspective is shown below in figure 2; B's actual position, of course unknown to A, is marked by the character 'B'. From this we can see that an interpretation of B's utterance by A as meaning the '2nd row in from the right' is compatible with A's conviction that moving down would result in B reaching a switch point and therefore changing A, especially considering that it would be unlikely for A to be mistaken about the vertical position; A's likely interpretation of B's position is marked then by the character 'b'.



'B': denotes B's actual position
'b': denotes A's likely interpretation of B's position

Figure 2:
Maze configuration of 11D.22 from A's perspective

The failure of B's move to cause A's barriers to be changed prompts the second position specification at line 17:

17| B: I'm in the 3rd row down, 3 in, {from the right

Here B produces a specification in the same format as at line 7, reflecting the established schema, with an expansion in an area of possible difficulty. Unsurprisingly, given the earlier polarisation between right-oriented specifications for B and left-oriented specifications for A, B decides to make the rightwards orientation of his/her schema explicit. A's response, however, is to focus on the "3rd row" and s/he manages, in line 20, to volunteer the correct interpretation: "3rd row down".

It is worth noting that it would be extremely unlikely for A to

have suddenly lost track of the game sufficiently to place B in the lower half of the maze - as would be required to contrast 'down' with 'up' and that B's explicit 'from the right' in a distinct specification to that containing the '3rd row' is sufficiently at odds with A's schema to warrant re-appraisal. Furthermore, the position third row down is the only likely position in the top right hand quarter of the maze into which B *could* move down without having entered a switch point for A. The situation was, therefore, entirely in favour of A arriving at an accurate interpretation at this point and, indeed, B subsequently uses formulations such as

... the goal is the 1st row, 3 in

without any misunderstanding ensuing.

It is also possible to track the developments of these divergent microregisters in terms of the discourse developments which established them. As we have seen, following the initial schema specifications, the microregisters remain largely unaltered until explicit vertical positions are again included by player B. However, support for A's having missed the alteration is offered by the fact that from the initial establishment of description schemata right up until the breakdown of segment 11D.22, the acknowledgement a player gives to the position specification of the other player is quite minimal. Early in the game there is the occasional respecification, e.g.

B: That's me 4 along from the, left, from the right.
A: Er, you should be beside me then.
[11D.4]

but subsequently, and more commonly, understanding is simply assumed.

For example, in

A: If I move up, will I affect you?
B: Where are you?
A: I'm, see that row you're on?
B: Aye.
A: I'm, at, 2nd from bottom.
B: Well, you won't change me, no.

the position specifications stand as complete, unproblematic answers which permit the nested sequence of insertions, $Q_1Q_2Q_3A_3A_2A_1$, to survive intact. Thus, the informed player is clearly not finding it necessary to provide any explicit k2f-moves as indications of a successful informing, further thematic development is being embarked upon immediately.

Only when the breakdown is recognised are explicit k2f-moves with respect to position specification discourse sequences found again. Then the situation resembles that observed above in initial segments and, in lines 18-20 of 11D.22, two k2f.c-moves are produced. Furthermore, the form of the latter k2f.c-move,

20| A: ... Is it the 3rd row down?

explicitly proposes a modification to the information proposed and thus serves to establish a re-negotiated schema for A and to confirm the existing schema for B. This situation also suggests that when a problem does occur, a player who is seen to have made a mistake is placed in a less powerful role with respect to the discourse. Even though it is player A who puts forward the position specification at line 20, player B retains the right to correct this assessment. This is because a microregister already exists and it is possible for a player to adopt a k1-role towards its details and so to act as the 'final' authority for its correct usage. The other player may or may

not challenge this but would only do so if s/he were able to justify the adoption of a more powerful role in the discourse. This is clearly not an option available to A at this point in protocol 11D.

One can see, therefore, that the breakdown discussed in this section and the lead up to its occurrence, while conforming to the results of the previous discussions in this chapter, are also made quite transparent to analysis when viewed in terms of the types of conversational processes that I have described. Following the initial establishment of schemata, subsequent uses follow without any need for explicit acknowledgements of the success of maze position specifications. Any changes that do occur are quite minor. When there is a problem, however, the situation reverts partially to that of the initial segments inasmuch as explicit acknowledgements and substantial reformulations are again produced. The tight connection between discourse contribution design and the contextual establishment of microregisters serves to constrain significantly the range of possible interpretations that can be placed upon the discourse and hence permits a better insight to be achieved into the reasons for the organisational details that are observed.

Chapter Six

Conclusion

1. Summary - the account so far

This thesis has been built upon the basic premise that the fundamental 'function' of language may be taken to be the creation, maintenance, and development of essentially shared, intersubjective provinces of meaning. This has been shown to be a logical outgrowth and continuation of the Firthian tradition in linguistics and, more particularly, of the theoretical position articulated in Halliday (1978). According to this position 'context' has come to denote an entity which is already taken to 'transcend' those individuals who participate in it. The general behaviour potential that is current at any stage and, importantly, this includes linguistic potential, is *not* tied to any individual participants, speakers or hearers - it is fundamentally intersubjective in that the potential and realising contexts are both logically prior to their relevant individuals and objects, and it is they alone that render those individuals and objects meaningful. This is contrary to the cognitivist, or 'transcendentalist', standpoint in which differences and individuality are accepted as the basic phenomena which are to permit the *later* construction (somehow) of an intersubjective bridging between individuals. The mechanisms by which intersubjective constructs such as contexts and their contents are maintained were

accepted, then, as the central objects of linguistic inquiry and this thesis represents an initial cycle of investigation into their nature and construction.

As consequences of this position, discourse must be seen both to arise out of its context and to reshape that context - as is held to be the case in conversation analysis - and that context is maintained *intersubjectively*. The context always embraces the language behaviour of all the discourse participants who take part. At no point in the account has it been necessary to describe individual-specific *processes* for accomplishing the design of discourse contributions and the subsequent orientation of speakers towards the areas of context that are picked out as being of concern. In particular, the conversation analytic emphasis upon the shared nature of talk required a consideration of *interaction* which focused attention upon *both* production- and interpretation-related issues. Indeed, I have deliberately not distinguished these two aspects of the use of language in this thesis because the generalisations proposed are intended to reside at a 'higher' level of abstraction that is relevant to both. Language restructures intersubjective contexts; whether one is hearing the language or producing the language the effects at this level are the same - the context is restructured.

Similarly, there has been no distinction drawn between speakers and hearers; a deployment of resources at one level is taken to have consequences at other levels regardless of how that deployment came

about, i.e. whether by producing an utterance or by interpreting one. It is, of course, possible for speakers to have divergent views of what is occurring, but these views are always couched in intersubjective terms - even in their divergence it would be possible for each to be the view of all; there is simply no such entity as a 'private' context at this level of analysis. The deployment of the conventional resources for designing and producing discourse can be seen, therefore, as the means by which an essentially shared, intersubjective set of demonstrably intelligible contexts is maintained. Consequently, the discourse participants 'understand' both the discourse and each other in that the existence of some history of discourse contributions necessarily relevances possible continuations and developments - it is in the grasping of these possible futures for interaction that understanding resides.

Within this initial cycle, then, the phenomenon of discourse has been focused upon as being of crucial importance. It is in the form of discourse and conversation that language has evolved to play the role of supporting intersubjectivity. It is in natural, connected discourse, therefore, that the essential features of that role may be seen most fully. Two principal areas of concern have been addressed:

(i) the organisation of discourse as a distinct level of linguistic structural patterning;

(ii) the consequences of that organisation for the intersubjective contexts in which it is deployed.

The first detailed elaboration of the discourse level resources available for constructing conversation was approached in chapter

four by demonstrating how certain regular lexicogrammatical properties of conversation could be seen as indicative of an autonomous level of linguistic patterning. That autonomous level was characterised in the terms of the discourse-functional organisation proposed. The possible discoursal conditioning of the following phenomena was investigated: ellipsis, repetitions, certain pronominal selections, the structuring of individual speaker's turns by means of questions, tags, pauses, interruptions, etc., and sequences of turns designed to achieve particular interactional aims (e.g. securing the floor). In general, it was suggested that these possible forms could be beneficially treated not as 'problems' requiring solution (e.g. 'here is an elliptical expression, or here is an occurrence of "it", what possibly could it be referring to?'), but rather as detailed instructions to the participants in the situation as to how that situation (including the discourse in process) is to be developed. This entirely supports, therefore, the conversation analytic claim that by an appropriate interpretation utterances can be revealed to meet quite precisely the demands and purposes of their contexts of utterance; almost *no detail is too small* to reflect linguistically an utterance's 'situatedness', comprehension of the speaker of that situatedness, and the intended development of the situation that the utterance represents.

Subsequently, in order to address the communication necessary between the *strata*, of the linguistic system chapter five investigated the consequences of the deployment of the available discourse organisational resources proposed, not in terms of

lexicogrammatical properties of utterances, but in terms of the properties established at the *contextual* stratum. More particularly, because of this thesis's focus upon discourse, the aspects of context studied were restricted to those relevant to subsequent discourse design. The essential construct proposed here as an extension to the Nigel framework was that of the 'preselection configuration'. This is a very general mechanism by which certain choices of discourse design, e.g. the selection of referring expressions, may be constrained by the discourse history; thus, as we shall see, helping to create 'topics'.

One of the more significant possibilities the argument in chapter five established was just how the strict implementation of Firth's prism metaphor succeeds in the Introduction's goal of placing a far greater work-load upon the language that occurs, rather than requiring the immediate acceptance of 'underlying' mechanisms where the 'real' work of comprehension is supposed to be undertaken. For example, it was illustrated how in the course of the discourse of a maze game protocol the players construct how they are to view and to describe the relevant aspects of the game that need to be communicated. The mechanism proposed to capture this phenomenon then interpreted it as the establishment of a *shared* orientation of the potential for action available in the situation. It is not the case that players come to the game with a pre-given and inflexible set of plans for dealing with the game and terms for expressing those plans. The players instead both take part in a process of view construction and *negotiation* in which proposals are made, often implicitly in the

way the discourse is organised, and then accepted or rejected (again often implicitly) prior to any possibility of their subsequent use. Crucially, the effective formation of plans typically arises in the very terms established by the players in interaction; that interaction may, therefore, profitably be viewed as *prior* to plan construction.

This is one manifestation of the fact that it is not useful to see the linguistic activity of the players and the solving of the maze game puzzle as *distinct* problems. In the very achievement of discourse appropriate to the situation the activity necessary for playing and solving the game has been realised. The language does not, therefore, act as an 'interface' between problem-solver and world; language is, on the contrary, the socially-maintained force by which shared problems of this kind may be established and their solutions achieved.

The general organisation of the linguistic system as it has been articulated over the course of this thesis is summarised in figure 1 below. On the lefthand side we have the basic framework for handling the lexicogrammar as inherited from Nigel. The righthand side depicts the overall flow of control in my attempt to extend this to provide a unified framework capable of incorporating both an interpretation of the Hallidayan and conversation analytic views of the relation between language and context (cf. chapters one and two) and the results of my investigations into the organisation and function of discourse (cf. chapters four and five). Thus, there are

now assumed to be at least three areas of linguistic patterning based on *form*: the **lexicogrammar**, **discourse** and **intonation**. The organisation within these levels is to be represented by **system networks** which interrogate the **context** via *choosers* and create **functional-structural** results via *realisation*. In addition, the systems and their choices which are actually considered in any particular situation are further constrained by allowing that situation to associate elements of its context with a relevantly *restricted* range of systems and choices. The definition of such restricted ranges of potential is made via *preselection configurations* which constitute more or less general **registers** or **microregisters**. Finally, it is also assumed that the three levels of form can also interact in a straightforward fashion, via preselection, as do the various *cycles* or actualisation that arise solely within the lexicogrammar for each *rank* of unit generated (e.g. clause, nominal group, etc.).

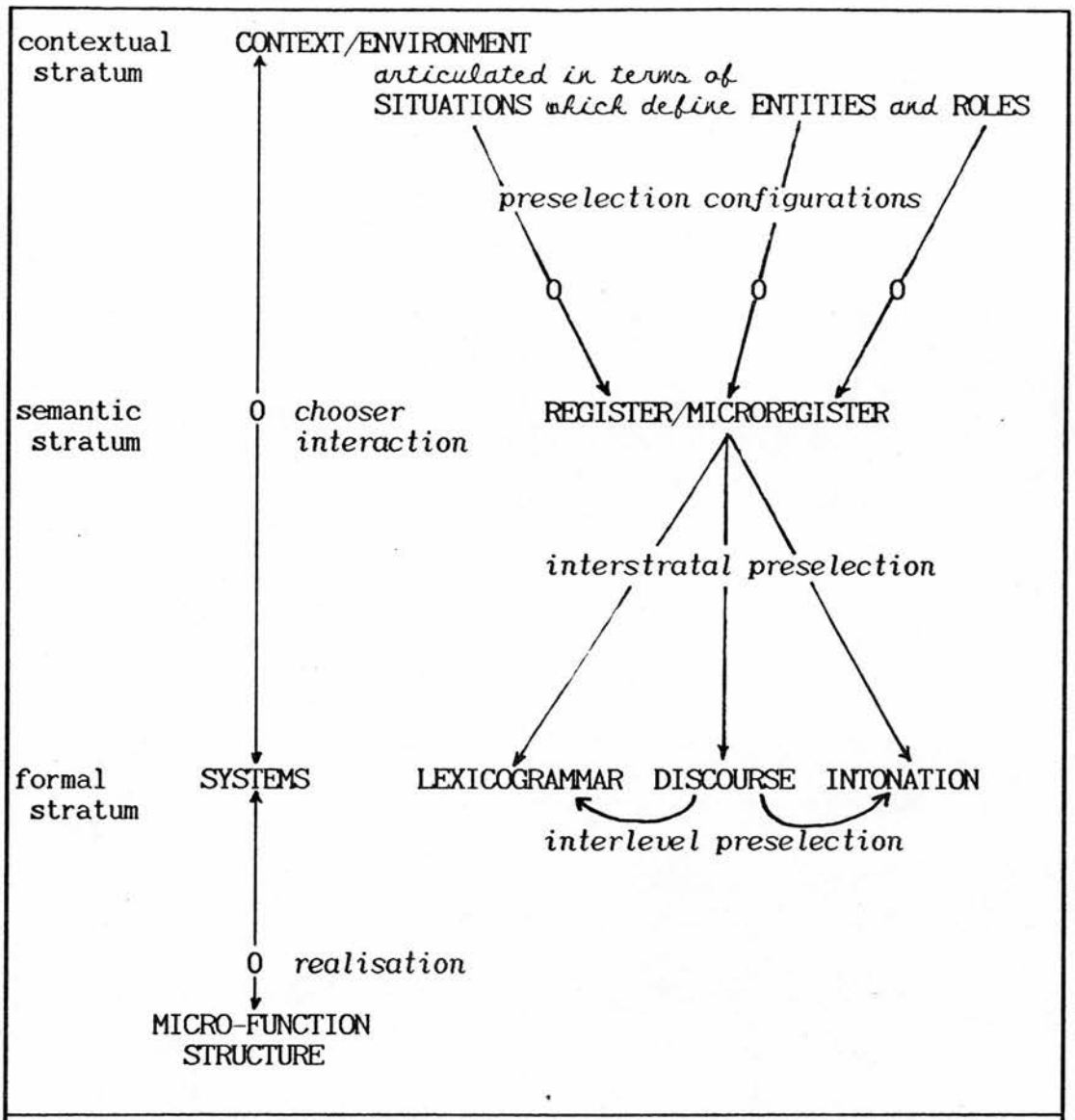


Figure 1:
The view of the linguistic system developed in this thesis

Clearly, while this thesis has addressed many aspects of this general organisation, a completely specified framework is still some way off. In particular, systems of choice for the discourse level of form have not been provided and the mechanisms involved in the preselection configuration have only been outlined rather than being

specified in detail. To conclude here then, I will in the next two subsections attempt to suggest the directions in which more complete specifications of these areas are to be sought and, in subsection 1.3, sketch an analysis of Schegloff's cited telephone conversation that illustrates the view proposed.

1.1 The discourse level of form viewed as topic development

Chapter four brought us to the stage where a collection of *functional decompositions* of a unit loosely characterised as an 'exchange' had been set out. Each decomposition was claimed to achieve some set of discourse developments by means of a regular correlation between discourse micro-function and conversational work. It was acknowledged, however, that the state of the analysis achieved so far is not yet adequate to the task of providing the eventual required *formalisation* of discourse organisation. In order to get a sense, then, of how in a subsequent cycle of analysis an adequate systematisation might proceed, it will be useful to focus here upon what precisely the sequences of moves whose various patternings I have now described are achieving. What is required here is a way of focusing on that work the particular deployment of discourse functions achieves at the level of discourse itself - i.e. the work in terms of which functionality at the discourse level is to be defined. This is to seek the terms necessary for the eventual construction of networks of potential for the discourse level that could give rise to the discourse-functional patterns actually observed. Berry, for example, justified her initial formalisation in

which the k1, pc, and ai micro-functions were declared obligatory by interpreting the exchange as the unit 'concerned with the transmission of complete propositions'; the resulting network accordingly involved features to do with either informing or eliciting propositions about either A- or B- events. Naturally, with my move away from the emphasis on the transmission of information, an alternative vantage-point needs to be found.

A potentially useful starting point is provided by some of Sacks's observations on the construction of sequences of utterances in talk and their relation to 'topics'; Casey has summarised these observations as follows:

> 'Where utterances are consecutively arranged in some relation to one another, topic will result and will, furthermore, be a locus of conversational organisation. ... In other words, when speakers attend the requisites of consistency and coherence they are, in doing so, attending topical coherence. Understanding becomes, in addition, *topical understanding* and topical items are placed with reference to prior and present topic.' (Casey, 1981, p8)

It is possible then that a consideration in terms of topic of conversational organisation as captured in the discourse-functional characterisation I have developed could suggest a possible systematisation of the discourse level resources. In particular, Casey's (1981) discussion of topic 'flow' fits extremely well with the account offered above and provides a useful broadening of perspective.

Casey focuses specifically upon the ways in which discourse participants 'begin' topics. Two distinct organisations are observed: beginnings 'may be organised either for a new topic to *flow* from a

prior topic, or as specifically *segmented*, and dislocated from what has preceded them." (*ibid.*, p2) Many of the resources he describes as typically employed for achieving topic flow are similar to the lexicogrammatical manifestations of discourse organisation I discussed in chapter four. However, problematic for any more formally-specified approach to topic flow is the fact that no way has been achieved of recognising from a consideration of linguistic 'form' - construed as widely as necessary - talk on a 'new' topic as distinct from further talk on the old topic. Casey notes that the resources he describes for effecting topic flow are the very same resources that allow for utterance-by-utterance cohesion as have been detailed by Sacks, Halliday and Hasan, and many others. Indeed, he claims this as a positive result of the investigation; for example:

> "Although Sacks has observed that this phenomenon can display a topic density we have shown that it can operate across topics and, thereby, organise the production of a new topic." (*ibid.*, p76)

or,

> "Again it can be found that a phenomenon Sacks has observed operating to establish an utterance-by-utterance coherence can also operate across topics and actually organise a coherent topic flow." (*ibid.*, p83)

The observation that these resources for utterance-by-utterance coherence operate both within and across topics suggests that it is indeed beneficial to treat them as a distinct level of organisation as I have done in this thesis.

Casey's account also draws attention to the need to focus upon a particularly difficult problem if systematisation is to be

achieved: i.e., just where does this notion of 'topic' fit into the framework as a whole? Re-interpreting Casey's discussion of topic flow in the terms of the discourse-functional level of form, it seems that coherent utterance-by-utterance development might be achieved by speakers' adherence to the potential of the discourse level but, in addition to that organisation, a segmentation into stretches of talk by orientation to topic is also suggested. Thus, although, for example, a thematic sequence may be *conversationally* coherent in that the discourse contributions that carry it conform to the micro-function distributions of the discourse level of form, it has not yet been established how that might correspond to organisation by 'topic'. Furthermore, since the same resources are to be applied across and within topics, it will be useful to examine stretches of discourse with specific reference to topic to see if any additional isolable linguistic consequences are to be found specific to topic segmentation. This proves considerably easier in the constrained domain offered by the maze game than it is in natural conversation, and in the next subsection I will suggest in particular that the microregister construct can help with this.

Finally here a consideration of Casey's discussion of the *segmented* production of topics will pull together conveniently some of the various principles of discourse organisation proposed in chapter four. Casey notes that there are occasions where topic flow is not operating, a new topic is begun, and that new topic requires no disjunctive marking of any kind. This is due to the fact that the discourse participants know that topic flow is not operating and

hence that it is relevant to try to produce a 'first' topic from scratch so that conversation may proceed. This provides an environment for the deployment of discourse resources that is sufficiently distinctive for it to be examined without the benefit of a supporting contextual formalisation.

Casey sets up his discussion as follows.

> 'Where topic flow is operating speakers are orienting to and engaging in topic talk already. By contributing to an in-progress flow of topic talk, both speakers are repeatedly indicating their current and continuing *availability* for, and *commitment* to, talking topically. Therefore, where topic flow is functioning, availability for indulging in topic talk is not a paramount issue as speakers are constantly reiterating their mutual orientation towards topical involvement. Conversely, where topics are being started at a point where topic flow is not operating speakers work within the constraint of needing to *establish* mutual availability.' (*ibid.*, p119)

The work with which speakers need to concern themselves when generating a topic from scratch then divides into two stages. A speaker must first establish that his/her hearer is available for talk generally and, then, seek particular topics which will be accepted by the hearer as appropriate for conversation at that point. The discourse move primarily responsible for this is the 'topic initial utterance' which outlines 'an area of substantive content which topic talk could encompass for the immediate future of a conversation.' (*ibid.*, p123)

Casey describes the possible move trajectories which can follow particular types of topic initials in some detail but I need only consider the general statement of his results here. In short, a topic initial may be followed by one of three types of move: a

'topicaliser', which a hearer may produce to display acceptance of the topic initial's material as topic-worthy and which indicates that the speaker may continue; on-topic development, which goes further and shows that the hearer, or second speaker, is also able to develop the discussion of the proposed topic material; and negative responses, which may either curtail further discussion of the topic or leave the initiative entirely with the first speaker as to whether s/he pushes the initial topic or attempts to initiate another. These possibilities may be summarised thus:

(1) [topic initial | topicaliser | on-topic development .
(2) [topic initial | on-topic development ...
(3) [topic initial | negative response]

In addition, following Pomerantz (1975), Casey suggests that a possible form of trajectory (2) may be described as:

(4) [assessment | agreement further assessment ...

On the basis of his examination of conversation and the discovery of the above organisational structures, Casey concludes:

> "All topic initials, as the first turn of a topic beginning, can fulfill three functions. Firstly, they lay a basis for talking topically as a conversational activity, secondly, they propose the initiation of particular topic material ..., and thirdly, they project for which speaker will develop the topic material posited in the topic initial, and, at which stage of the sequence." (*ibid.*, p146)

But particularly interesting here is that this is almost identical to a general statement of the workings of the discourse-functional level I have proposed; Casey's three functions correspond to the textual, ideational, and interpersonal metafunctions respectively. Indeed, when the discourse-functional level is applied to the move trajectories (1)-(4), their organisation

appears to be quite simply motivated. Furthermore, by accepting Casey's view of the conversational work these trajectories achieve, a more coherent view is afforded of the discourse-functional resources as a whole: i.e. discourse-functional characterisations should be seen not as being solely related to the transmission of propositional information at all but, in addition, are equally concerned with ways of *continuing to talk topically*.

This suggests the following constraints on topic initial moves, or rather on topic talk sequences generally, when seen in terms of the discoursal micro-functions developed above. First, the acceptance of a topic involves the negotiation of k1- and k2-roles with respect to the topic proposed for discussion. This is intended as a more general organisation than the allocation of these roles discussed above and can be taken as a general framework within which propositionally-local variation can occur. Clearly, for topical development to ensue there ought to be at least one bearer of a k1 role. Trajectory (3) above can be said to include, therefore, move sequences such as:

pc (or pb)	.
k2	k2
mi	mii

in which the necessary k1 has not occurred and topical development is jeopardised. Trajectory (2) is analogous to sequences such as:

pb (or pc)	pc (or ps)
k2	k1
mi	mii

This resembles a simple exchange as examined by Berry and, indeed, as Casey notes, a question-answer adjacency pair commonly carries this

particular method of topic establishment.

We are now also in a position to distinguish this last case from trajectory (4) because there neither speaker declines to accept a k1-role. The first assessment claims a k1-role but, in contrast to the situation in trajectory (1) which I discuss in a moment, the second speaker does too. The structure here is then simply:

pc_1		ps^+_1	pc_2
k1	k2f	k1	k1
mi		mii	miii

which was found in the maze game in relation to AB-events.

This suggests a second area of constraint in topic talk: i.e. that thematic sequences should occur to develop that talk. In short, a pc_i should project a pc_{i+1} unless conversational work is done to bring the topic to a close and thereby suspend thematic development. Furthermore, in an exactly analogous manner to Coulthard and Brazil's (1981) discussion of options being restricted as the exchange proceeds, at the level of topic one finds with the moves concerned with the initial production of topic that the 'scope' of their propositions at issue is much broader than those that occur later. It is these initial moves which set the bounds on the topic to be developed and disagreements, 'final' acceptances (e.g. k2f.f), repairs, etc. have much greater consequences on the future course of the discourse here than do those occurring later.

A consideration of the possibilities that fall under trajectory (1) offers further support for these constraints. Trajectory (1) can

be predicted by taking the topic initial to claim a k1-role for its speaker (a 'self-selecting topic initial' in Casey's terms [p163]), which the topicaliser accepts while also displaying a k2-role allocation for its speaker. I.e.

pc_1			pc_2	
k1		k2	k1	...
mi		mii	miii	

Casey describes the topic initial in this case as relying upon "its recognisable status as the presenter of a *partial* item of information." (*ibid.*, p165) His discussion of this could be usefully extended by a consideration of just what constitutes a 'partial' item of information. For example, in Gricean terms it could be described as a violation of the maxim of quantity, or, in those of Polanyi (1978b), as an incomplete 'story' which has not yet displayed its *point*, its reasons for being brought up. This would clearly bring to bear some much needed, further constraints upon the notion of relevance with respect to thematic progressions.

The picture so far constructed for the discourse level of organisation can, then, be summarised thus. Sequences of conversational moves are constructed according to the constraints specified so as to achieve thematic progressions which develop talk on mutually agreed topics. The principal stretches of language over which the constraints operate should be seen as the thematic sequence which carries a single topic and the exchanges within that which serve to carry the thematic sequence. Each such stretch of language needs to allocate 'knowledge' roles and produce a sequence of 'propositions' which are relevant and have a 'point' with respect to

the topic. It should be noted that throughout the thematic sequence essentially the same constraints are operating. Whereas Casey deals with the resources of topic flow and segmented topic generation quite separately, here there was no need to develop a distinct set of resources at the level of *discourse*.

This corresponds to the observation cited above that utterance-by-utterance cohesive ties can also support topic flow. The discourse level resources themselves organise sequences regardless of their status with respect to topic in that their constraints always apply. The essential difference, then, between topic-internal contributions which do not function to organise larger stretches of discourse and topic-initial contributions which do is placed at a higher level of thematic sequence *selection*. This is not to be construed as a reduction to the purely ideational content of a discourse: as the next subsection will clarify, such selection is *not* restricted to a selection of 'factual content'. In topic-initial contributions then the scope of the propositions proposed are far wider than that of those occuring subsequently. Propositions occurring earlier in a sequence are free to address wider issues and participate in fixing the boundaries within which the subsequent talk is to develop, thereby organising the large stretches of talk associated with particular topics.

1.2 The relation between topic development and microregiser

The two 'levels' of work I described in sections 2, 3 and 4 of

chapter five, the conversational level of developing a coherent discourse and the contextual level of maintaining and extending a set of microregisters, can now be related more generally. To achieve this it will be useful briefly to review once again the logical steps that intervene between discourse contributions and microregisters.

At the least 'abstract' and most easily recognisable level come the structural entities that result from cycles of actualisation within the lexicogrammar. In chapter four, I classified these in terms of their 'completeness', or independence from previous cycles, by means of the lexicogrammatical 'base': a base is the result of one independent cycle of lexicogrammatical actualisation. Material for these bases is taken from the ongoing thematic progression, which is represented by the theme-rheme propositional structures associated with the ideational layer micro-functions of the discourse level, i.e. pb_i, pc_i, etc. Bases are also shaped by the requirements of the other discourse layers as they each contribute to the construction of sequences of discourse moves.

In the previous subsection I was able to suggest that the resources of the discourse level of form provided one essential means for managing the topical development of conversation; by the appropriate deployment of those resources discourse participants could negotiate the establishment, elaboration, and completion of sequences of topically relevant talk. This is reflected in the thematic progressions and the particular forms adopted for their supporting lexicogrammatical bases. However, thematic progressions

are often only recognisable as such by virtue of a perceived orientation towards some communicative goal; that is, unless the connection can be seen the sense of progression will be lost. Naturally the discourse level resources can provide significant clues that there are connections to be made and guide the search for such connections, but the actual fact of connection nevertheless resides at the stratum above the formal, among the situation-dependent meanings of the context, and not among the formal patterns themselves.

Chapter five showed that one means that is available to discourse participants for aiding the recognition and construction of topical connections is the regular association of linguistic formal features with such situation-specific meanings as are found necessary. This kind of association, which constitutes the microregister construct, is then always tied at the contextual level to more or less specific 'functions'. Such functions are not the generalised 'meta'-functions of the linguistic system but are instead the actual functions that language is called upon to perform in context. They may be 'anonymous' to a greater or lesser degree, in that they may not have been allocated to particular individuals, but they will remain necessarily 'specific' and context-tied. Evidence for such functions can be obtained from the presence of microregister-like phenomena: when there appears to be a stable, if evolving, set of possible linguistic realisations which regularly occurs in the context of a particular task then that task is a candidate for a contextual function. The principal example dealt with

in chapter five was the identification of a maze position during the playing of the maze game.

The establishment of microregisters appears to be an automatic consequence of discourse development. When no problems are encountered minor simplifications may be made with little or no comment. More substantial alterations are more or less likely to be accepted depending upon at least the following three aspects:

(i) the power of the role adopted by the speaker; this can in part be influenced by the speaker him/herself by designing discourse contributions *as if s/he were* in the superior role by such means as taking the floor, deploying pk2f-contributions, offering respecifications of others' contributions, interpreting fillers as micro-exchanges, interpreting micro-exchanges as genuine questions, etc. - in short, actually possessing a superior role and acting as if one does often become indistinguishable;

(ii) the salience given to a particular stretch of discourse - if a discourse segment is explicitly marked to be not central by, for example, fast delivery, low phonological prominence, less autonomy of design, etc. then even if possible respecifications of microregisters occur, it will be unlikely for them to be adopted;

(iii) the use of particular discourse environments for drawing attention to explicit modifications in, and proposals for, microregisters; for example, most commonly in the above, the use of the k2f.c-slot for precisely this kind of conversational work.

Once established the microregister provides certain specifically relevant shapes of propositional development and certain specifically relevant forms for their linguistic realisation.

This leads on naturally to a further development of the view of 'topic' being taken here although, again, the metatheoretical presuppositions of the Hallidayan conversation/discourse analytic approach require slight extensions to be made to the term as it is

more generally understood. The particular slant on topic that I propose follows from Schegloff's (1972) discussion of the term. Schegloff argues that the selection of refering expressions should be seen as one resource for displaying a coherent perspective relevant to the talk at hand; that is, it provides an excellent resource for displaying *orientation to topic*. The fact that there are available alternatives provides for the possibility of discourse participants analysing the terms which are actually selected in contrast to those which are not in order to gain a sense of the consistency, and 'topicality', of the discourse's development. The major point here then is that if formulations are indeed selected specifically to create a coherent set of formulations which together continually succeed in orienting discourse participants towards the intended discourse topic, then

> "it would clearly seem foolhardy to try to excerpt from its conversational surroundings some particular formulation, and examine how it was selected out of the set of terms that are, by a correspondence test of truth, equally "correct". The selection would seem understandable only as part of the co-selection of the variety of terms occurring in the conversational segment." (*ibid.*, p80)

But, of course, the suggested formalisations of term selection, Nigel's included, attempt precisely such an isolation.

The notion of 'topic' and that of microregister can now be brought together as follows. Schegloff points out that a central conversation analytic observation about 'topic talk' is "co-selection of features for topic" (*ibid.*); that is,

> "if one looks to the places in conversation where an object (including persons) or activity is identified ..., then one can notice that ... the selections made at each spot are "fitted" to each other, or "go together". Rather than saying "they fit the topic", or are "appropriate to the topic", it

> may be preferable to say that in their co-selection they, at least in part, 'constitute' the topic.' (*ibid.*)

Schegloff's discussion also provides a detailed justification of this view with respect to location identifications. In addition chapter five criticised ideationally-centred approaches to term selection and suggested that contextual constraints will need to be brought to bear on the lexicogrammar if appropriate decisions are to be possible. This position was supported in the maze game protocols by virtue of the many examples of game-specific negotiated meaning, and their accompanying restriction of forms, which demonstrated that the expressions to be selected ought to be restricted even *prior* to selection on any such grounds as denotational adequacy. As Anderson's results show, for example, the word 'row' might well be used to refer consistently either to a horizontal path or to a vertical path, or a 'box' may be a single position within the maze or a box-like configuration of such positions. It would, therefore, involve considerably less 'work' for candidate terms to be restricted contextually, i.e. on the grounds of their precise *meaning in context*, at an early stage in the process. As a consequence of this, for most situations there is far *less* choice than the grammar alone would lead us to expect.

Now the current view of topic provides a further possible characterisation for this kind of 'meaning in context'. While it has been suggested that term formulations are constructed according to the expectations provided by the microregister, it has now been claimed that when the set of formulations in a discourse is considered, the selection of those forms exhibits a common

orientation that can be said to 'constitute' the topic of that discourse. But a common orientation such as this is precisely the kind of organisational feature that a stable microregister would induce in segments of conversation over which it was active. Thus, orientation to topic can be seen as a necessary result of any microregister that endures unchanged over a stretch of discourse. Of course, for a microregister to remain unchanged is not something that simply 'happens' since, in theory, discourse contributions always have consequences for the microregister. This is because the actualisation of linguistic potential only proceeds with respect to the possible and the possible is always situationally restricted - thus, the deployment of discourse resources cannot help but leave behind more or less determinate indications of the restrictions within which that deployment occurred. As long as no clear indications of those restrictions have been provided, the situation to which the language is responding and, hence, the meaning and intention of that language, will remain unclear. The practical consequences of this are that, if speakers wish to preserve a microregister, then they must select the language they are to use accordingly; i.e. they must do the appropriate 'conversational work' for the microregister, and hence the orientation to the topic, to continue. The recognition of topicality and thematic progressions may thus be helped substantially by the application of the microregister construct in both interpretation and production.

1.3 An example analysis of Schegloff's cited telephone conversation

To conclude this 'state of the model' section I will return to the original conversational fragment that I used in the Introduction to contrast the conversation analytic approach to the standard rhetorical relation approach typically adopted in cognitive science and linguistics proper. The 'solution' suggested there to the problem of discourse interpretation was that it was necessary to free the analysis of discourse from the imposition of socially-based categorisations of linguistic behaviour in order to make visible the genuinely linguistic organisations of discourse upon which the social categorisations rest and which govern the details of linguistic realisation in form. I will now, therefore, re-analyse the fragment in terms of the model as developed this far so as to:

(i) illustrate how the components of the model would fit together in practise;

(ii) show how the model begins to achieve some of the aims I outlined for a theory of the linguistic organisation of conversation;

and (iii) suggest some immediately warranted further lines of development.

The relevant part of the fragment is repeated in figure 2 below. I have reformatted it to pick out those aspects particularly significant for the analysis of the interpretation and re-interpretation of contributions 5-7. Essentially the line numbering now reflects each lexicogrammatical contribution that is accepted as forming the basis for subsequent contribution design. This is in *no* way intended to suggest that the unnumbered contributions should be ignored in a complete analysis; I am adopting

this simplification purely to aid the task in hand. The shape of the analysis will be as follows. I will first briefly motivate the *conversational* state of affairs that is taken to hold over contributions 1-4. This establishes the discourse developments relevant at that point and so serves to fix the appropriate continuations and their interpretations as suggested by the discourse model. I will then describe how those continuations both explain the design, and allow for the interpretation, of contributions 5-9.

1. B: ... *I* said, it comes down t' this:=
   = Our main difference:
(*I* feel that a government, i-
   the main thing, is-)
2. th-the purpose a' the government, is, what
   is best for the country.

3. A: *Mm*hmm

(B: *He* says, governments,
   an' you know he keeps-
   he talks about governments,
   they sh-)
4. the thing that they sh'd do is what's right or wrong.

5. A: For *whom*.
6. B: Well he says- { he-
7. A: { By what *s*tandard

(B: That's what-)
8. that's exactly what I mean,
(he s-)
9. but he says ...

Figure 2:
Schegloff's (1977, p81) cited telephone conversation
(contributions central to the analysis only are numbered)

There are good grounds for accepting from the outset the two sets of sequential relevances Schegloff proposes to be operative in

this conversation: i.e. those of a story being told and those of an argument in progress. As was mentioned in the Introduction, A's selection of back-channel contributions (e.g. contribution 3) is indicative of an extended turn in progress and may be interpreted, following chapter four, as passes. Also, B's contribution 1 may be taken as marking a potential move from a story in progress to a summary of the story (expressed in contributions 2 and 4) and potential conclusion. Similarly, B's selection of alternating 'I said'-'he says' headed contributions provides equal support for the argument in progress interpretation. The conflicting nature of the positions of B and the teacher is also expressed in the strong syntactic parallelism at clause rank of the summary statements, contributions 2 and 4.

Now, while in chapter five the microregister construct was illustrated only with respect to the lexicogrammar, the similarity in the statuses accorded the lexicogrammar *and* the discourse level (cf. figure 1) suggests the possibility of a similar phenomenon of contextual preselection with respect to discourse patterning. *This* is where I will place observations such as Reichman's concerning rhetorical structure. Two microregisters will be accepted as being relevant then in the fragment at hand: the first influencing design according to a social interpretation of the speech event as a story-telling, the second according to an interpretation of the subject matter of the story as an argument. The first microregister is seen in preselections concerning the development of thematic sequences that carry a story and the favouring of conversational

passes by the hearer until the point of the story has been reached; the second in preselections concerning the simultaneous alternation of B's turns and the teachers with positions in the argument and the establishment of thematic sequences where propositions *challenge* each other in the way Reichman and others have described. The state of affairs in contributions 1-4 is depicted in figure 3; here I will explicitly make use of the multiple sets of discourse functions suggested in chapter four so as to capture the sequencing being governed by the two microregisters in force. For ease of reference the identifying subscripts used for lexicogrammatical bases and propositions will generally follow the contribution numbering given in figure 2.

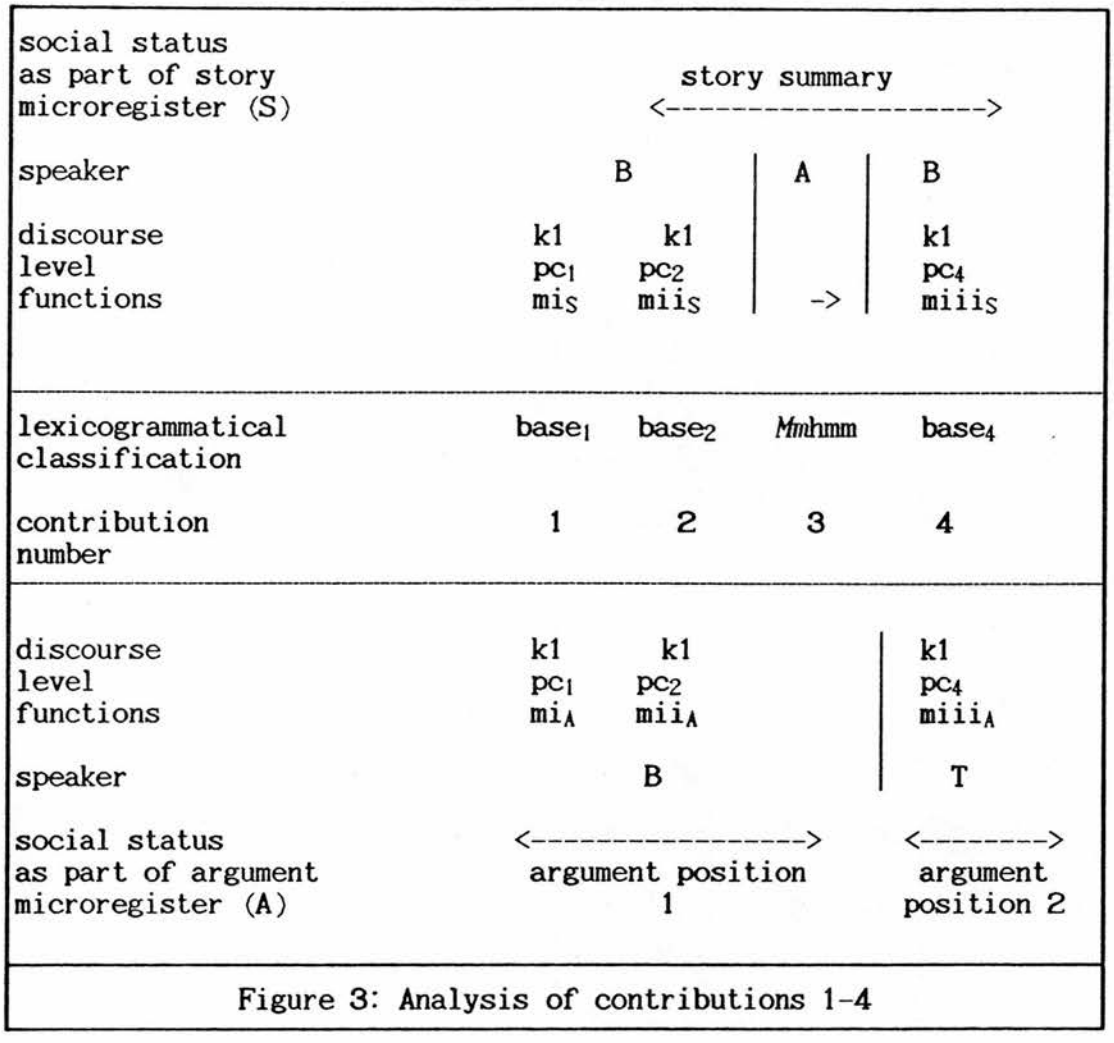
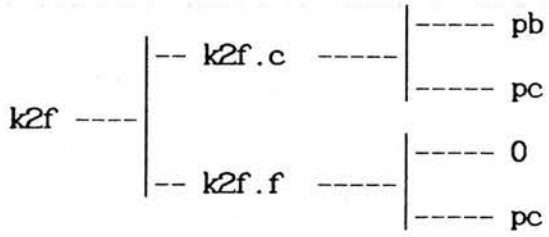


Figure 3: Analysis of contributions 1-4

This is the context, then, into which A's contribution 5, 'For *whom*', is launched. Two quite distinct sets of options for interpreting this contributions are relevanced by the two microregisters and *both* of these are *actually* relevant at that point. For the story-telling, an extended sequence of k1-interpretable contributions have been delivered and the options for A therefore revolve around a k2f-function to mark acceptance of the 'knowledge' shared. The functions relevant for designing A's contribution (miv_S) may be schematised thus:



That is, if further details of the story are to be elicited then A may design a k2f.c contribution in which some area of concern is picked out by the proposition included. Alternatively, A may accept the story as it is and produce a simple k2f.f, possibly including some noncontinuing propositional content via a pc-function. However, from the perspective of the argument interpretation, the options relevanced for a forthcoming *turn* are more along the lines of a 'k1/P/miv_A' where the ideational function is any one of:

pc_i	: with proposition i *supporting* propositions 1 and 2
$ps^{+}_{1,2}$	: explicit support for propositions 1 and 2
pb_i	: with proposition i *challenging* proposition 4, (perhaps rendering the k1 function a dk1 or, a more indirect challenge, a k2f.c)
ps^{-}_4	: explicit challenge of contribution 4.

The actual *form* of contribution 5 selects among these as follows. Lexicogrammatically 'For *whom*' links with the preceding base and enforces an interrogative feature selection; it is therefore a

$mod_{4.1}$ [Q]

This is primarily compatible with a pb-function and so the interpretations relevanced by the two microregisters are reduced to a 'k2f.c/$pb_{4.1}$/miv_S' for the story-telling and a 'dk1(or k2f.c)/$pb_{4.1}$/miv_A' for the argument.

The appropriate *contextualisation* of these moves by virtue of

the microregister with respect to which they are being produced here becomes quite crucial. In particular, the *propositions* receive slightly differing interpretations and, as can be seen from the different bearers of the roles of *speaker*, the assignation of interpersonal layer functions is being based upon different sets of responsibilities in the two cases. Thus, while an appropriate gloss of the story-telling's move might be:

> A requests of B clarification over the issue of who it is that B is stating the teacher regards governments should do what's right or wrong for,

for the argument the gloss is:

> A challenges the teacher (via B) over the issue of who it is that governments should do what's right or wrong for.

As we shall see in a moment, I think it can be justified that the second of these interpretations requires 'more' work on the part of B and so it is quite understandable that B, in fact, responds to the story-telling relevances first. That is, B attempts to produce a clarificatory 'k1/$pc_{4.1}$/mv_S' as contribution 6.

A quickly interrupts this move however. Furthermore, the *form* of A's interruption, a $mod_{4.1}$[Q] precisely analogous to contribution 5, serves to close off the possibility of B pursuing a mv_S-move at that point by displaying a marked divergence from the relevanced 'pk2f/$pc_{4.1}$' that might have occured as an interruption and by placing that interruption sufficiently early as to render itself, rather than contribution 6, central for subsequent discourse development. With the mv_S course blocked, and hence the relevance of an miv_S interpretation most unlikely, B is free to take the mv_A argument line of interpretation for his/her contribution.

Significant here is that a simple continuation of the discourse according to the argument microregister would be somewhat problematic. If we accept the dk1-interpretation of contribution 7 for the sake of concreteness, then the move this relevances at mv_A is: $k2/pc_{4.1}/mv_A$. But, due to the microregister role associations, this is a k2 assigned with respect to the *teacher* not B. If B were to attempt to produce such a move directly, s/he would be placing him/herself in the role of the teacher - giving rise perhaps to utterances of the form:

'well, he would say that ... '

etc. Furthermore, since the argument microregister defines 'sides' trading turns, the association which would then have been established would be the teacher versus A, with B playing the role of the teacher. As this has the consequence, presumably not what B had intended at all for this conversation, that A and B are now in an adversary relationship with B taking the position of someone with whom s/he has been at some pains to disagree, it is most unlikely that this line of development would be undertaken.

B, then, has to find a course of action which projects a more acceptable continuation of the conversation. Fortunately, A's contribution 7 quite readily supports such a course. If the role associations of the argument microregister are examined prior to contribution 7, the situation that prevails has B and the teacher as the arguers. Then, by means of contribution 7, A's proposal of a dk1 function with respect to a proposition attributed to the teacher

groups A and B *together* as holding the true responsibility for deciding what it is that governments should do. Therefore, as regards this particular topic, contribution 7 implicitly proposes that A and B share k1-assignation criteria. But this is *as valid a conversational proposition* as any other and so B can respond to it as such. We then have an implicitly proposed, i.e. 'disembodied', completed proposition related to proposition 4.1 for which B holds the right of accepting or denying; i.e. contribution 7 creates a 'meta' level set of discourse functions containing the move '$k2/pc_D/mi_M$' with proposition D glossable along the lines of:

> B takes the issue of who it is that governments should do right or wrong for as a serious flaw in the teacher's position.

This B responds to with the explicit '$k1/ps_D^+/mii_M$' of contribution 8: 'that's exactly what I mean'.

A's utterance has now been successfully assimilated into the development of the discourse and has achieved an expression of support for B by proposing that A and B may be grouped together as far as the argument microregister is concerned as arguing against the teacher. Both the story-telling and the argument are then free to proceed since no strong expectations are left outstanding at the meta-level. Also, B's explicit acknowledgement of A's support ensures that the former possibility of A and B being allocated to different sides in any continuation of talk according to the argument microregister no longer threatens. The analysis of contributions 5-9 is set out in figure 4.

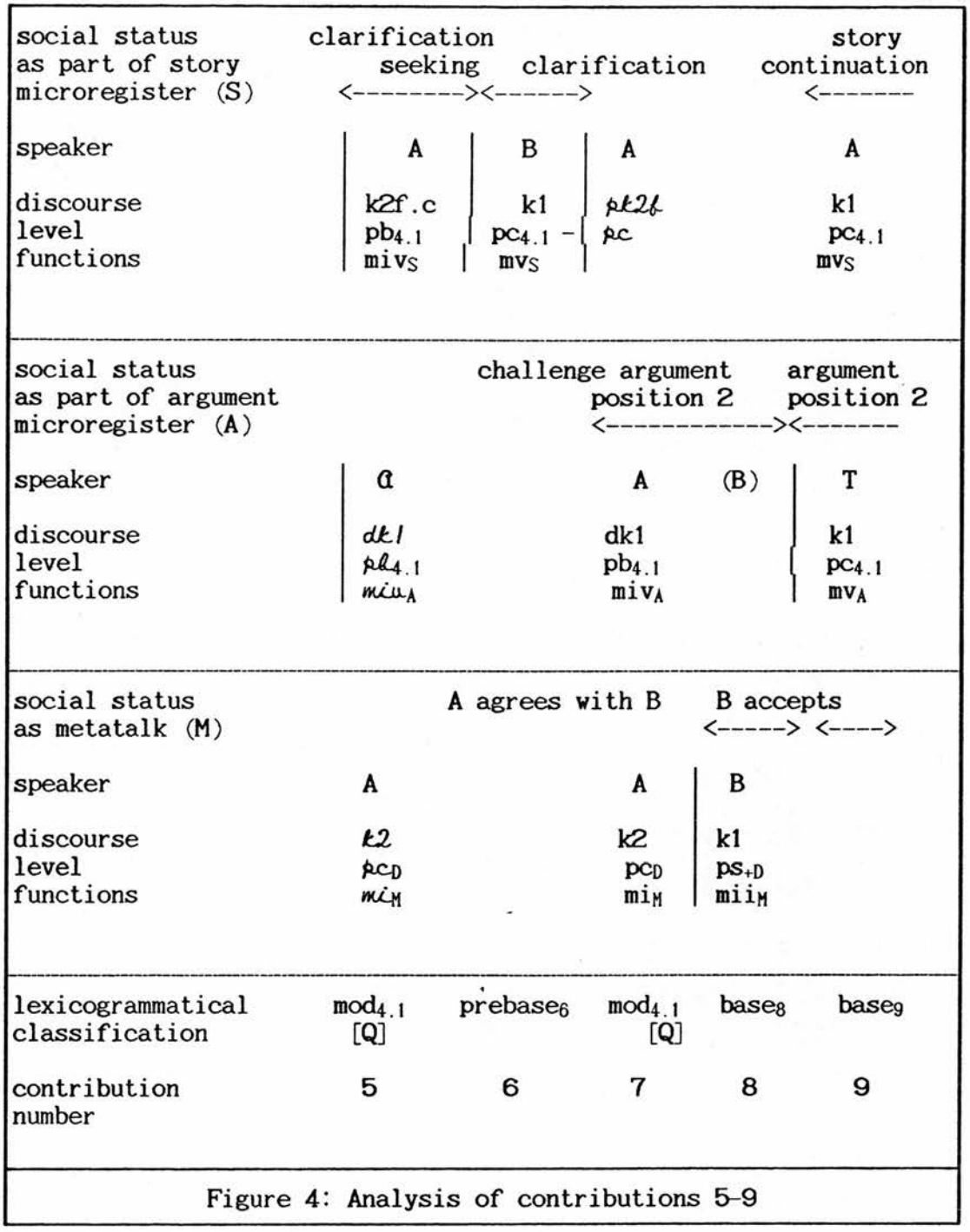


Figure 4: Analysis of contributions 5–9

In conclusion, then, I hope this detailed example has suggested the positive role the discourse level of organisation and its relationship to context can have both for *designing* appropriate

discourse contributions and for *guiding* the particular questions to be asked and deductions to be performed to arrive at discourse interpretations. Resolving the problems posed by needing to achieve a sanctioned distribution and combination of discourse level micro-functions with the contextual consequences such distributions enforce appears to offer precisely the necessary set of interpretive tasks by which an appropriate understanding of a discourse may be constructed and suitable continuations assessed.

2 The re-evaluation of cognitivist constructs

It is clear, even though I have throughout this thesis criticised theoretical constructs for the explanation of linguistic phenomena that are compatible with a cognitivist interpretation, that accounts proposed in cognitivist terms do appear to have succeeded in clarifying the operation of various mechanisms observed to operate in language. My response to this, as first mentioned in the introduction and argued in chapter one, was that what had in fact occurred in these cases was that the true nature of the accounts proposed had not been realised: the accounts were not appropriately considered as cognitive at all but were instead social explanations all along. The essential explanation for this can be found in the fact that everything that is relevant to language is *already* and *necessarily* socially real. It is only because a distinction has been imbued with social relevance that it is recognised in language.

For example, hesitation in speech, to take a paradigmatic

'performance' variable, is not something of purely individual, 'psychological' import: the length of time a hesitation may last is *socially* defined. Thus, a hesitation may not be remarked upon - may even pass unnoticed - because pauses of such length are not socially relevant. However, after some length of time, it does become of possible social relevance (e.g. it may be taken as indicating that a turn has ended, that a turn is not coming, that the speaker has decided not to speak to the addressee any longer, etc.) and a filler is necessary to prevent the long silence - necessary because *cultural norms* make it so. *Regardless* of the fact that there may be a perfectly sound psychological basis for the hesitation at some level, e.g. a 'processing delay', the consequences and perception of the hesitation remain those that have been socially established: 'after a pause of length t_1, it is relevant to do X', 'after a pause of length of time t_2, it relevant to do Y', etc. It is *these* kinds of considerations which determine what will happen in the face of any particular hesitation not the determination of some 'more real' attribution of the phenomenon to the physical functioning of 'brain-ware'.

This is particularly important because once a phenomenon is recognised to be *socially* real - as is necessary for there to be any response to it as relevant for any course of action whatsoever (including choosing to ignore it) - it may subsequently be produced precisely for its social effects rather than for a presumed processing reason. Thus, if one wants to be perceived as providing a thoughtful response to some question (or perhaps as being offended by

a question, etc.), then a momentary silence may be produced prior to a turn to give the intended impression. But then no psychological attribution of 'processing in progress' or 'delay due to emotional interference' is at all appropriate. The hesitation phenomenon is being deployed just as would any other available linguistic resource and so should be treated similarly: i.e. at the social, personal-level of description appropriate for linguistic phenomena generally. Without some understanding of the social functionality of observable phenomena, therefore, the attribution of psychological-level explanations is surely premature.

The principal manifestation of this position in this thesis has been the demonstration that certain archetypally cognitivist constructs can quite adequately be re-interpreted as purely linguistic or contextual resources for the design of appropriate discourse contributions which need in no way rest upon a psychological foundation. This has been shown particularly in the area of 'focus': *local* focus receiving a non-cognitivist interpretation in chapter four, and aspects of *global* focus in chapter five.

Those phenomena now traditionally captured in terms of focus have been considered in the current framework as members of a set of linguistic resources for affecting the development of discourse in a distinctive fashion. The examples discussed in chapter four accordingly established the use of the pronoun 'it' as being indicative of *repair* at the propositional level, and was contrasted

with the use of 'that', which was found to be indicative of regularly occurring patterns of propositional *development*.In addition, the treatment of 'plans' implied here similarly re-evaluates these constructs' cognitive status. Rather than being 'underlying' cognitivist constructs which are used for the design of talk and, hence, which make language possible, they are instead to be seen as essentially linguistic large-scale structures for the organisation of behaviour. Thus, we *make use of* our linguistic abilities to create these extended structural schemes we term plans, not vice versa.

This is potentially very beneficial precisely because of the problems alluded to in the Introduction and chapter one concerning planning-based accounts. The discourse-functional resources of the discourse level begin to offer a means of escaping the necessarily trouble-ridden establishment of 'possible' plans that is required for the antecedent and context-neutral specification of potential relevance or connectedness asked for in planning and deep micro-world approaches. In particular, these resources might provide for the ongoing negotiated achievement of topic flow *independently* of particular 'topics' and content. One can begin to see, therefore, how the deployment of resources such as those I propose can take on the task of organising and guiding contextual development in a way which remains securely at the personal level and which does not fall foul of the inherent confusions of an inappropriate cognitivism.

Finally, and again much more generally, I hope to have illustrated in this thesis that any claim such as Pylyshyn's that:

'...any AI system is at some level a psychological theory

> simply because the description of the intelligent task to which it is addressed already is essentially a description of some psychological processes." (Pylyshyn, 1979, p42)

presents a hopelessly narrow interpretation of the potential scope and power of cognitive science. For a 'cognitive science' to develop that is capable of usefully addressing as wide a range of the phenomena of mind as is currently being attempted - and especially phenomena related to knowledge and language - it will be necessary to move to the position where cognitive science has become a more abstract enterprise which concerns itself with the personal level, not the sub-personal. The research reported in this thesis therefore represents such a position and is, then, manifestly *not* offering a "description of some psychological processes".

The redrawing of the 'work' that language achieves in discourse that has been established in this thesis then necessarily significantly alters the design-goals for any person-machine language interface which is to going to be able to communicate effectively. The 'theory of conversation' called for in the introduction has at least been outlined and its claims are sufficiently incompatible with those methodologies for dealing with discourse currently accepted for interesting practical comparisons to be pursued.

Two quite general considerations we have seen above are the following:

(i) the re-interpretation of many small-scale linguistic phenomena as precise instructions to the interpreter rather than as problems needing resolution;

(ii) language itself is seen to organise context and guide development and this casts further doubt upon the value of the conduit metaphor[1] and hence of the modular segmentation of the

language problem found in approaches such as Nigel.

Responsible for (i) is the fact that the linguistic resources of the discourse level provide an additional set of 'communicative goals' to which discourse contribution design must be sensitive. Thus, many discourse responses which may previously have appeared to be 'indirect' can now, by virtue of the appreciation of the particular conversational work these responses achieve *in addition* to the simple transmission of information, be seen to be startingly direct; this was illustrated in detail by the examples of chapter four. Furthermore, the placing by (ii) of the work of organising context on language itself allows us to escape the necessity of the *prior* establishment of planning-possibilities for understanding what has been contributed to a discourse that has been claimed to be so problematic.

3. Further development

I will now bring this thesis to a close by briefly outlining three areas of particular concern that I have failed to address adequately within this initial investigation into the organisation of discourse. These areas are, therefore, prime targets for the next cycle of investigation, plans for which are already well advanced.

---

1. Reddy (1979).

(1) As I explained towards in chapter four, the discussion there had still not reached the point where it would be possible to propose useful systemic networks for a formalisation of the discourse level of linguistic potential. It is clear that this problem will need further consideration before the resources I have described can be incorporated within a more complete computational implementation of the linguistic system as it is defined by the Hallidayan paradigm. However, one possibility which might need to be addressed is that the networks of the discourse level are 'degenerate' in that such a low level of structural 'density' is supported that networks there may not show significant organisational properties. That is, there may not be the large number of mutually-ordered micro-functions and the dependencies these create that are found within the lexicogrammatical level. This would contrast discourse with the lexicogrammar where the rich interaction of many and varied layers of possible grammatical functions defines a very dense set of structural constraints and inter-relationships and would uphold the argument I put forward in chapter two for the similarity in *kind* between discourse and syntax, while simultaneously accounting for the strong intuition that they are somehow different.

(2) The discussion of chapter five has made it clear that the formalisation of an additional channel of communication between the choosers of the grammatical level system networks, and other levels and strata of organisation, which operates in the *reverse* direction to that currently supported in the Nigel

framework, may help provide a far better understanding of a range of formerly intractable linguistic phenomena; e.g. topic and the fine sensitivity shown by the deployment of the resources of the linguistic system towards the prevailing context that I have attempted to capture in terms of the 'microregister'. The goal here, therefore, would be to provide a much clearer specification of how preselection configurations actually operate upon the choice process during lexicogrammatical actualisation. This can only be undertaken, however, within the framework provided by an already extensive level of formalisation of lexicogrammatical resources; fortunately, the Nigel framework provides this level of detail and so now research in this direction should be pursued.

(3) Finally, in the discussions throughout this thesis I have assumed a level of organisational detail that resides at the stratum of context; I have not described that organisation in terms specifically to do with context - only in relation to its consequences for discourse. In other words, I have not dealt with 'pure' contextual development, only the phenomenon of microregister by means of which that development achieves a pervasive influence on discourse design. I believe it is both possible, and eminently desirable, now to attempt formalisations of this level of detail in a manner wholely compatible with the practical and theoretical considerations established by an adherence to the Hallidayan paradigm. It is only out of such an investigation that a completely compelling account of the phenomena of knowledge, planning, etc. as being

dependent upon language will arise. As a practical demonstration of the possible accuracy, or otherwise, of the philosophical discussions I presented in chapter one, then, such an account would be most valuable.

Appendix I

Glossary of discourse level micro-functions

Textual layer

ai, aii, aiii, ...	Berry's original functions for moves of the first speaker
bi, bii, biii, ...	Berry's original functions for moves of the second speaker
mi, mii, miii, ...	Moves of standard topic development
mi', mii', ...	Moves of a micro-exchange
mi_I, mii_I, ...	Moves of an insertion sequence

Ideational layer

pb_i	Proposition base, necessarily incomplete
pb_i'	pb with respect to a repaired proposition
pc_i	Proposition completion
pc_i'	pc with respect to a repaired proposition
pc_F	pc with respect to aspect of previous proposition
ps_i	Proposition support; either:
ps^-_i	- negative (i.e. challenge)
ps^+_i	- positive (i.e. acceptance)
ps_i'	ps with respect to a repaired proposition

Interpersonal layer

k1	Primary knower, the informer
k1.c	Primary knower, informing to be continued
k2	Secondary knower, the informed
k2f	State of secondary knowledge after informing:
k2f.f	- successfully (i.e. 'exchange final')
k2f.c	- unsuccessfully (i.e. 'exchange' continuing)
pk2f	Pre-emptive k2f, interrupts an informing move
dk1	Delayed primary knower, k1 to follow

Moves that weren't

~~k2f~~, ~~k2~~, ~~pk2f~~, ~~ps~~, etc.	Discourse environment relevances a move of a given type, but speaker overrules this

Lexicogrammatical details

$base_i$		One complete lexicogrammatical actualisation
	pre-$base_i$	A base interrupted by a turn boundary
$add_{i.j}$		Addition to $base_i$, creating a new base $base_{i.j}$
$mod_{i.j}$		Modification to $base_i$, creating a new base $base_{i.j}$
	mod [label]	Modification to a base in respect of feature labelled
$rep_{i.j}$		Repetition of aspect of $base_i$
	rep [label]	Repetition of aspect labelled
emb_i		A connected ('embedded') lexicogrammatical base

Miscellaneous

0	Move terminated before classification possible
NV	Nonverbal contribution (e.g. laughter, etc.)
.	Continuation of previous micro-function at this layer
-	Interrupted or incomplete move
->	Move opportunity passed

Appendix II

Bibliography of textual layer constructs

This bibliography contains the entries for figure 2 of the introduction (pp33-36), and figure 1 of chapter one (p73). The abbreviations that are used are described at the beginning of the Bibliography section which follows.

Bates,E. (1976) *Language and Context: the acquisition of pragmatics* ; New York: Academic Press.

Bates,E., MacWhinney,B. (1979) A functionalist approach to the acquisition of grammar; in Ochs, E., and Schieffelin, B. (eds.)(op.cit.), pp167-211.

Bazell,C.E., Catford,J.C., Halliday,M.A.K. ,Robins,R.H. (eds.) (1966) *In memory of J.R.Firth* ; London: Longman.

Brown,G. (1982) Intonation, the categories given/new, and other sorts of knowledge; MS, Dept. of Linguistics, University of Edinburgh; also published in Cutler, A. and Ladd, R. (eds.)(1983) *Prosodic Function and Prosodic Representation* , Cambridge University Press.

Brown,R.S. (1978) Paratones: their reality and realisation; Report on SSRC project HR360/1, Dept. of Linguistics, University of Edinburgh.

Chafe,W. (1970) *Meaning and the Structure of Language* ; University of Chicago Press.

Chafe,W. (1976) Givenness, Contrastiveness, Definiteness, Subjects, Topics and Point of View; in Li. C. (ed.)(op.cit.), pp27-55.

Chafe,W. (1977) Creativity in Verbalization and its Implications for the Nature of Stored Knowledge; in R.Freedle (ed.)(op.cit.),pp41-56.

Chafe,W. (1980) The deployment of consciousness in the production of a narrative; in Chafe,W. (ed.)(op.cit.), pp9-50.

Chafe,W. (ed.) (1980) *The Pear Stories* ; Norwood, New Jersey: Ablex Publishing Corps.

Clark,H.H., Haviland,S.E. (1977) Comprehension and the given-new contract; in Freedle, R. (ed.)(op.cit.).

Cole,P. (ed.) (1981) *Radical Pragmatics* ; New York: Academic Press.

Coulthard,R.M., Montgomery,M. (eds.) (1981) *Studies in Discourse Analysis* ; London: Routledge and Kegan Paul.

Coulthard,R.M., Montgomery,M., Brazil,D. (1981) Developing a description of spoken discourse; in Coulthard,R.M. and Montgomery,M. (eds.)(op.cit.), pp1-50.

Dahl,O. (ed.) (1974) *Topic and Comment, Contextual Boundness and Focus* ; Hamburg: Helmut Buske Verlag.

Danes,F. (1974) Functional sentence perspective and the organisation of the text; in Danes,F. (ed.)(op.cit.), pp106-128.

Danes,F. (ed.) (1974) *Papers on Functional Sentence Perspective* ; The Hague: Mouton.

Dijk,T.A. van (1977) *Text and Context* ; Longman.

Dijk,T.A. van (1982) Episodes as units of discourse analysis; in Tannen, D. (ed.)(op.cit.), pp177-195.
Ellis,J. (1966) On contextual meaning; in Bazell,C.E. et al. (eds.)(op.cit.), pp79-95.
Fillmore,C.J. (1968) The case for case; in E.Bach and R.T.Harms (eds.) *Universals in Linguistic Theory* , New York: Holt, Rinehart and Wilson.
Firbas,J. (1966) On defining the theme in functional sentence analysis; in *Travaux Linquistique de Prague 1* , pp267-280.
Freedle,R. (ed.)(1977) *Discourse Production and Comprehension* ; New Jersey: Ablex Pub. Corp.
Garvin,P.L. (ed.) (1970) *Method and Theory in Linguistics* ; The Hague: Mouton.
Grimes,J. (1975) *The thread of discourse* ; The Hague: Mouton.
Grossman,R.E., San,J.L., Vance,T.J. (eds.) (1975) *Papers from the parasession on Functionalism, April 17, 1975* ; Chicago Linguistics Society.
Grosz,B.J. (1977) The representation and use of focus in dialogue understanding; Ph.D. thesis, University of California at Berkeley.
Grosz,B.J., Joshi,A.K., Weinstein,S. (1983) Providing a unified account of definite noun phrases in discourse; *ACL 21*, pp44-50, Cambridge, MA.
Gruber,J.S. (1967) Topicalization in child language; *FL 3*, pp37-65.
Halliday,M.A.K. (1967) Notes on Transitivity and Theme in English - Part 2; *JL 3*, pp199-244.
Halliday,M.A.K., Hasan,R. (1976) *Cohesion in English* ; London: Longman.
Heny. (1971) in Carswell,E.A. and Rommetveit,R. (eds.)(op.cit.). *Social Contexts of Messages*; London.
Hopper,P.J. (1979) Aspect and foregrounding in discourse; *S+S 12*, pp213-241.
Jackendoff,R. (1972) *Semantic Interpretation in Generative Grammar* ; Cambridge, Mass.: MIT Press.
Jefferson,G. (1972) Side Sequences; in Sudnow,D. (ed.)(op.cit.), pp294-338.
Kallgren,G. (1978) Deep case, text surface and information structure; *NJL 1*, pp149-167.
Keenan,E.L. (1976) Towards a universal definition of 'subject-of'; in Li, C. (ed.)(op. cit.).
Keenan,E.L. (ed.)(1975) *Formal Semantics of Natural Language* ; Cambridge University Press.
Keenan,E.O., Schieffelin,B.B. (1976) Topic as a discourse notion; in Li, C.,(op. cit.).
Kuno,S. (1972) Functional sentence perspective; *LI 3*, pp269-320.
Kuno,S. (1975) Three perspectives in the functional approach to syntax; in R.Grossman et.al. (eds.)(op.cit.), pp276-336.
Kuno,S. (1976) Subject, Theme and the Speaker's Empathy; in Li, C. (ed.)(op. cit.).
Kuno,S. (1980) Functional Syntax; in *S+S 13*, pp117-136.
Kuno,S., Kaburaki,E. (1977) Empathy and Syntax; *LI 8*, pp627-672.
Laguna,G. de (1927) *Speech: Its function and development* ; New Haven: Yale University Press.
Li,C., Thompson,S. (1976) Subject and topic:A new typology of language; in Li, C. (ed.)(op. cit.).

Li,C. (ed.)(1976) *Subject and Topic* ; New York: Academic Press.
Longacre,R.E. (1970) Hierarchy in language; in Garvin,P.(ed.) (op.cit.), pp173-190.
MacWhinney,B. (1977) Starting Points; *Lg 53*, pp152-168.
McKeown,K.R. (1982) Generating Natural Language Text in Response to Questions about Dialogue Structure; unpub. Ph.D. thesis, University of Pennsylvania.
Mohan,B.A. (1969) An investigation of the relationship between language and situational factors in a card game, with specific attention to the language of instructions; unpub. Ph.D. thesis, University of London.
Ochs,E., Schieffelin,B. (eds.) (1979) *Developmental Pragmatics* ; New York: Academic Press.
Paduceva,E.V. (1974) On the structure of tha paragraph; *Linguistics131*.
Prince,E.F. (1981) Toward a taxonomy of given-new information; in Cole,P.(ed.) (op.cit.), pp223-256.
Reichman,R. (1978) Conversational coherency; *Cogn. Sci. 2*.
Reichman,R. (1981) Plain Speaking : A theory and grammar of spontaneous discourse; Ph.D. Thesis, Harvard University.
Rommetveit,R. (1974) *On Message Structure: A framework for the study of language and communication* ; Wiley.
Schegloff,E.A. (1968) Sequencing in conversational openings; *American Anthropologist 70* , pp1075-1095.
Schegloff,E.A. (1972) Notes on a conversational practice: formulating place; in Sudnow,D. (ed.)(op.cit.), pp75- 119.
Schegloff,E.A., Sacks,H. (1973) Opening up closings; *Semiotica 8*, pp289-327.
Searle,J.R. (1970) *Speech Acts* ; Cambridge University Press.
Sgall,P. (1974) Focus and contextual boundness; in O.Dahl (ed.)(op.cit.), p25-52.
Sgall,P., Hajicova,E., Benesova,E. (1973) *Topic, Focus, and generative semantics* ; Kronberg-Tanus: Scriptor Verlag.
Sidner,C.L. (1979) Towards a computational theory of definite anaphora comprehension; unpub. Ph.D. thesis, MIT.
Sinclair,J. Coulthard,R.M. (1975) *Towards an Analysis of Discourse* ; London: Oxford University Press.
Stratton,C.R. (1971) Linguistics, Rhetoric, and Discourse Structure; unpub. Ph.D. thesis, University of Wisconsin.
Sudnow,D. (ed.)(1972) *Studies in Social Interaction* ; New York: The Free Press.
Tannen,D. (ed.) (1982) *Georgetown University Round Table on Languages and Linguistics 1981 - "Analyzing Discourse: Text and Talk"* ; Washington, D.C.: Georgetown University Press.
Valin,R.D. van, Foley,W.A. (1980) Role and reference grammar; in *S+S 13*, pp329-352.
Vennemann,T. (1975) Topics, sentence accent, and ellipsis; in Keenan,E.L.(ed.), (op.cit.).
Webber,B.L. (1979) *A formal approach to discourse anaphora* ; London: Garland Pub. Inc.
Yule,G. (1981) Aspects of the information structure of spoken discourse; unpublished Ph.D. thesis, University of Edinburgh.
Zubin,D. (1979) Discourse function of morphology; *S+S 12*, pp469-504.

Abbreviations

The abbreviations used throughout this thesis for bibliographical entries referring to journals, conference proceedings, etc. are as follows:

AAAI	:	American Association for Artificial Intelligence
ACL	:	Association of Computational Linguistics
AI	:	Artificial Intelligence
AJCL	:	American Journal of Computational Linguistics
BBS	:	The Behavioural and Brain Sciences
BLS	:	Procedings of the Berkeley Linguistics Society
CLS	:	Procedings of the Chicago Linguistics Society
Cogn. Psych.	:	Cognitive Psychology
Cogn. Sci.	:	Cognitive Science
FL	:	Foundations of Language
IJCAI	:	International Joint Conference on Artificial Intelligence
JL	:	Journal of Linguistics
JP	:	Journal of Philosophy
JVLVB	:	Journal of Verbal Learning and Verbal Behaviour
LI	:	Linguistic Inquiry
Lg	:	Language
LTAL:A	:	Language Teaching and Linguistics: Abstracts
SIGART	:	Association for Computing Machinery Special Interest Group in Artificial Intelligence
S+S	:	Syntax and Semantics - New York: Academic Press
3: 1975	:	"Speech Acts"; ed.: Cole, P.
7: 1976	:	"Notes from the linguistic underground"; ed.: McCawley, J.D.
8: 1977	:	"Grammatical Relations"; eds.: Cole, P., Saddock, J.M.
12: 1979	:	"Discourse and Syntax"; ed.: Givon, T.
13: 1980	:	"Current Approaches to Syntax"; eds.: Moravcsik, E.A., Wirth, J.R.
TINLAP	:	Theoretical Issues in Natural Language Processing
1: 1975	:	eds: Schank,R., and Nash-Webber,B.L.
2: 1978	:	ed.: Waltz, D.

References in the text to the page numbers of articles which are designated as 'forthcoming' will generally be to the manuscript versions of those articles.

Akmajian,A. (1979) *Aspects of the grammar of focus in English* ; London: Garland Pub.Inc.
Allen,J. (1979) A plan-based approach to speech act recognition; Ph.D. thesis, University of Toronto.
Anderson,A. (1983) Semantic and Social Pragmatic Aspects of Meaning in Task-Oriented Dialogue; unpub. Ph.D. thesis, University of Glasgow.
Appelt,D. (1982) Planning natural language utterances to satisfy multiple goals; unpub. Ph.D. thesis, Stanford University.
Austin,J. (1962) *How to do things with words* ; Oxford University Press.
Barwise,J. (1981) Scenes and other situations; *JP* 78, pp369-397.
Barwise,J., Perry,J. (1981) Situations and Attitudes; *JP* 78, pp668-691.
Barwise,J., Perry,J. (1983) *Situations and Attitudes* ; Cambridge, Mass.: The M.I.T. Press.
Bateman,J.A. (1983) Cognitive science meets existential philosophy: collapse or synthesis?; Dept. of AI, Working Paper No. 139, University of Edinburgh.
Bates,E. (1976) *Language and Context: the acquisition of pragmatics* ; New York: Academic Press.
Bates,E., MacWhinney,B. (1979) A functionalist approach to the acquisition of grammar; in Ochs, E., and Schieffelin, B. (eds.)(op.cit.), pp167-211.
Bauman,Z. (1978) *Hermeneutics and social science: approaches to understanding* ; London: Hutchinson.
Bazell,C.E., Catford,J.C., Halliday,M.A.K. ,Robins,R.H. (eds.) (1966) *In memory of J.R.Firth* ; London: Longman.
Beattie,G.W. (1981) The regulation of speaker turns in face-to-face conversation: Some implications for conversation in sound-only communications channels; *Semiotica 34*, pp55-70.
Beaugrande,R. de (1980) *Text, discourse, and process* ; Norwood, New Jersey.: Ablex Pub. Corp.
Beaugrande,R. de, Dressler,W.U. (1981) *Introduction to Text Linguistics* ; London: Longman.
Becker,A.L. (1979) Text-building, epistemology, and aesthetics in Javanese shadow theatre; in Becker, A.L. and Yengoyan, A.A. (eds.)(op.cit.), pp211-242.
Becker,A.L., Yengoyan,A.A. (eds.) (1979) *The Imagination of Reality* ; Norwood, New Jersey: Ablex Pub. Inc.
Beekman,J., Callow,J. (1974) *Translating the Word of God* ; Grand Rapids, Mich.: Zondervan Publishing House.
Berger,P.L., Luckmann,T. (1967) *The social construction of reality: a treatise in the sociology of knowledge* ; Allen Lane (Penguin), London.
Bernstein,B. (ed.) (1973) *Class, codes and control 2: applied studies towards a sociology of language* ; London: Routledge and Kegan Paul.
Berry,M. (1975) *An introduction to systemic linguistics 1: structures and systems* ; London: B.T. Batsford Ltd.
Berry,M. (1977) *An introduction to systemic linguistics 2: levels and links* ; London: B.T. Batsford Ltd.
Berry,M. (1980) They're all out of step except our Johnny: a discussion of motivation (or the lack of it) in systemic linguistics; Paper presented at the Seventh Systemic Workshop,

Sheffield, 10 September, 1980.
Berry,M. (1981a) Systemic linguistics and discourse analysis: a multi-layered approach to exchange structure; in Coulthard, R.M. and Montgomery, M. (eds.)(op.cit.), pp120-145.
Berry,M. (1981b) Polarity, ellipticity and propositional development, their relevance to the well-formedness of an exchange; *Nottingham Linguistic Circular 10*; page numbers in the text refer to the MS version.
Berry,M. (1981c) Towards layers of exchange structure for directive exchanges; *Network 2*.
Berry,M. (1982) Review article: *M.A.K. Halliday (1978) Language as Social Semiotic: The Social Interpretation of Language and Meaning*; *Nottingham Linguistic Circular*.
Bobrow,D.G., Collins,A.M. (eds.) (1975) *Representation and Understanding* , New York: Academic Press.
Bobrow,D.G., Kaplan,R.M., Kay,M., Norman,D.A., Thompson,H., Winograd,T. (1977) GUS, A Frame-Driven Dialog System; *AI 8*, pp155-173.
Bobrow,D.G., Winograd,T. (1977) An overview of KRL, a Knowledge Representation Language; *Cogn. Sci. 1*, pp3- 46.
Bobrow,R.J., Sidner,C.L., Webber,B.L. (1982) Overview of the Natural Language System; in Woods, W.A. (op.cit.), pp43-63.
Boguraev,B.K. (forthcoming) User-Modelling in Cooperative Language Front Ends; in Gilbert,G.N. and Heath, C.C. (eds.)(op.cit.).
Bosch,P. (1983) *Agreement and Anaphora* ; London.
Brachman,R.J. (1979) On the epistemological status of semantic networks; in N.Findler(ed.)(op.cit.).
Brachman,R.J., Israel,D.J. (1982) KL-ONE Overview and Philosophy; in Woods, W.A. (op.cit.), pp5-42.
Brachman,R.J., Smith,B. (1980) Special Issue on Knowledge Representation; *SIGART Newsletter* , 70 (Feb.), pp1- 138.
Brazil,D. (1981) The place of intonation in a discourse model; in Coulthard, M. and Montgomery, M. (eds.)(op.cit.), pp146-157.
Brentano,F. (1973/1874) *Psychology from an Empirical Standpoint* ; New York: Humanities Press.
Brown,G. (1982) Intonation, the categories given/new, and other sorts of knowledge; MS, Dept. of Linguistics, University of Edinburgh; also published in Cutler, A. and Ladd, R. (eds.)(1983) *Prosodic Function and Prosodic Representation* , Cambridge University Press.
Brown,G., Currie,K.L., Kenworthy,J. (1980) *Questions of Intonation* ; London: Croom Helm Ltd.
Brown,G., Yule,G. (1983) *Discourse Analysis* ; Cambridge University Press.
Brown,P., Levinson,S.C. (1978) Universals in language usage: politeness phenomena; in Goody, E.N. (ed.) *Questions and Politeness* , Cambridge University Press.
Brown,P., Levinson,S.C. (1979) Social stucture, groups, and interaction; in Scherer,K. Giles,H. (eds.) *Social Markers in Speech* , Cambridge University Press, pp291-347.
Brown,R.S. (1978) Paratones: their reality and realisation; Report on SSRC project HR360/1, Dept. of Linguistics, University of Edinburgh.
Bruce,B.C. (1975a) Generation as social action; *TINLAP 1*, pp74-78.
Bruce,B.C. (1975b) Discourse models and language comprehension; *AJCL*,

pp19-35.
Bruce,B.C., Newman,D. (1978) Interacting Plans; *Cogn. Sci. 2*, pp195-233.
Buhler,K. (1934) *Sprachtheorie: die Darstellungsfunktion der Sprache* ; Jena: Fischer.
Bullwinkle,C. (1977) Levels of complexity in discourse for anaphora disambiguation and speech act interpretation; *IJCAI 5*.
Burton,D. (1980) *Dialogue and Discourse* ; London: Routledge and Kegan Paul Ltd.
Butterworth,B., Hine,R., Brady,K. (1977) Speech and Interaction in Sound-Only Communication; *Semiotica 20*.
Button,G., Casey,N. (forthcoming) Generating topic: the use of topic initial elicitors; in Atkinson, J.M. and Heritage, J.C. (eds.) *Structures of Social Action* , Cambridge University Press.
Carbonell,J. (1982) Meta-language utterances in purposive discourse; Carnegie-Mellon University, Dept. of Computer Science, CMU-CS-82-125.
Carbonell,J. (1983) Discourse Pragmatics and Ellipsis Resolution in Task-Oriented Natural Language Interfaces; *ACL 21*, pp164-168, Cambridge, MA.
Carello,C., Turvey,M.T., Kugler,P.N., Shaw,R.E. (1984) Inadequacies of the computer metaphor; in Gazzaniga, M.S. (ed.) *Handbook of Cognitive Neuroscience* , New York: Pergamon, pp229-248.
Casey,N.J. (1981) The social organisation of topic in natural conversation: beginning a topic; unpub. Ph.D. thesis, Plymouth Polytechnic.
Chafe,W. (1974) Language and consciousness; *Lg 50*, pp111-133.
Chafe,W. (1976) Givenness, Contrastiveness, Definiteness, Subjects, Topics and Point of View; in Li, C. (ed.)(op.cit.), pp27-55.
Chafe,W. (ed.) (1980) *The Pear Stories* ; Norwood, New Jersey: Ablex Publishing Corps.
Charniak,E. (1982) Context Recognition in Language Comprehension; in Lehnert, W. and Ringle, M. (eds.) (op.cit.), pp435-454.
Chomsky,N. (1966) *Cartesian Linguistics: a chapter in the history of rationalist thought* ; New York: Harper and Row Pub. Inc.
Clark,H.H., Clark,E.V. (1977) *Psychology and language* ; New York: Harcourt, Brace, and Jovanovich.
Clark,H.H., Haviland,S.E. (1977) Comprehension and the given-new contract; in Freedle, R. (ed.)(op.cit.).
Cohen,P.R. (1978) On knowing what to say: Planning speech acts; Ph.D. thesis, University of Toronto.
Cohen,P.R. (1981) The Need for Referent Identification as a Planned Action; *IJCAI 7*, pp31-36.
Cohen,P.R., Perrault,C.R., Allen,J.F. (1982) Beyond question answering; in Lehnert, W. and Ringle, M. (eds.) (op.cit.), pp245-274.
Cohen,P.R., Perrault,R. (1979) Elements of a plan-based theory of speech acts; *Cogn. Sci. 3*, pp177-212.
Cole,P. (ed.) (1981) *Radical Pragmatics* ; New York: Academic Press.
Collins,A.M., Quillian,M.R. (1969) Retrieval time from semantic memory; *JVLVB 8*, pp240-247.
Cook,J.W. (1969) Human beings; in Winch,P. (ed.) *Studies in the Philosophy of Wittgenstein* , London: Routledge and Kegan Paul.
Cook-Gumperz,J.A. (1972) *Social control and socialization* ; London: Routledge and Kegan Paul.

Cook-Gumperz,J.A., Gumperz,J.J. (1976) Context in Children's Speech; in *Working Paper 46* , Language Behaviour Research Laboratory, University of California at Berkeley.
Coulter,J. (1979) *The social construction of reality* ; London: MacMillan.
Coulter,J. (1983) *Rethinking Cognitive Theory* ; London: MacMillan.
Coulthard,R.M. (1975) Discourse analysis in English: a short review of the literature; *LTAL:A* , 8.
Coulthard,R.M. (1977) *An introduction to discourse analysis* ; London: Longman.
Coulthard,R.M., Brazil,D. (1979) *Exchange Structure* ; Discourse Analysis Monographs 5, University of Birmingham English Language Research.
Coulthard,R.M., Brazil,D. (1981) Exchange Structure; in Coulthard, R.M. and Montgomery, M. (eds.)(op.cit.), pp82-106.
Coulthard,R.M., Montgomery,M. (eds.) (1981) *Studies in Discourse Analysis* ; London: Routledge and Kegan Paul.
Coulthard,R.M., Montgomery,M., Brazil,D. (1981) Developing a description of spoken discourse; in Coulthard,R.M. and Montgomery,M. (eds.)(op.cit.), pp1-50.
Creider,C.A. (1979) On the explanation of transformations; *S+S 12*, pp3-22.
Currie,K.L. (1979) *Intonation Systems in Scottish English* ; unpublished Ph.D. thesis, University of Edinburgh.
Dahl,O. (ed.) (1974) *Topic and Comment, Contextual Boundness and Focus* ; Hamburg: Helmut Buske Verlag.
Danes,F. (1970) One instance of Prague School methodology: Functional analysis of utterance and text; in Garvin,P. (ed.)(op.cit.), pp132-140.
Danes,F. (1974) Functional sentence perspective and the organisation of the text; in Danes,F. (ed.)(op.cit.), pp106-128.
Danes,F. (ed.) (1974) *Papers on Functional Sentence Perspective* ; The Hague: Mouton.
Davey,A.C. (1975) Discourse Production; Ph.D. thesis, University of Edinburgh; published by Edinburgh University Press, 1979.
Davidson,D. (1970) Mental Events; in Foster,L. and Swanson, J. (eds.) *Experience and theory* , University of Massachussetts Press.
Davidson,D., Harman,G. (eds.) (1972) *Semantics of Natural Language* ; Dordrecht: Reidel.
Dennett,D. (1982) How to study human consciousness empirically, or nothing comes to mind; *Synthese53* , pp159-180.
Dennett,D.C. (1978) *Brainstorms* ; Brighton: The Harvester Press.
Dijk,T.A. van (1977) *Text and Context* ; London: Longman.
Dijk,T.A. van (1980a) *Macrostructures; an interdisciplinary study of global structures in discourse, interaction, and cognition* ; Hillsdale, New Jersey: Lawrence Erlbaum Associates.
Dijk,T.A. van (1980b) The semantics and pragmatics of functional coherence in discourse; *Versus, 26/27* , pp49-65.
Dijk,T.A. van (1982) Episodes as units of discourse analysis; in Tannen, D. (ed.)(op.cit.), pp177-195.
Doran,J. (forthcoming) The computational approach to knowledge, communication and structure in multi-actor systems; in Gilbert, G.N. and Heath, C.C. (eds.)(op.cit.).
Doran,J., Steel,S., Trayner,C., Wilks,Y. (1984) Meta- planning and Communication for TEAMWORK; Internal Report, Cognitive Studies

Centre, University of Essex.
Dressler,W.U. (ed.) (1977) *Current Trends in Text Linguistics* ; Berlin: de Gruyter.
Dreyfus,H.L. (1965) Alchemy and artificial intelligence; RAND Corp. Pub. P-3244.
Dreyfus,H.L. (1972) *What Computers can't do: a critique of artificial reason* ; New York: Harper and Row Pub. Inc.
Dreyfus,H.L. (1977) Heidegger's Existential Phenomenology; unpub. course notes to Philosophy 152B, University of California at Berkeley.
Dreyfus,H.L. (1979) A framework for misrepresenting knowledge; in Ringle,M.D. (ed.)(op.cit.), pp124-138.
Dreyfus,H.L. (1981) From micro-worlds to knowledge representation: AI at an impasse; in Haugeland, J. (ed.)(op.cit.), pp161-204.
Durkheim,E. (1950) *The Rules of Sociological Method* ; trans. by Solovay, S.A. and Mueller, J.H., Glencoe, Illinois.
Ellis,J. (1966) On contextual meaning; in Bazell,C.E. et al. (eds.)(op.cit.), pp79-95.
Embree,L.E. (ed.) (1972) *Life-World and Consciousness: Essays for Aron Gurwitsch* ; Evanston, Illinois: Northwestern University Press.
Enkvist,N.E. (1964) On defining style: an essay in applied linguistics; in Enkvist,N.E., Spencer,J. and Gregory, M.J. (op.cit.), pp1-56.
Enkvist,N.E. (1980) Categories of situational context from the perspective of stylistics; *LTAL:A 13*, pp75-94.
Enkvist,N.E., Spencer,J., Gregory,M.J. (1964) *Linguistics and style* ; Oxford University Press.
Evans,D.A. (1982) Situations and speech acts: towards a formal semantics of discourse; unpub. Ph.D. thesis, Stanford University.
Fawcett,R.P. (1980) *Cognitive Linguistics and Social Interaction: Exeter Linguistic Studies 3* ; Exeter University and Heidelberg: Julius Groos Verlag.
Ferrara,A. (1980a) An extended theory of speech acts: Appropriateness conditions for subordinate acts in sequences; *Journal of Pragmatics 4* , pp233-252.
Ferrara,A. (1980b) Appropriateness conditions for entire sequences of speech acts; *Journal of Pragmatics 4* , pp321-340.
Fillmore,C.J. (1968) The case for case; in E.Bach and R.T.Harms (eds.) *Universals in Linguistic Theory* , New York: Holt, Rinehart and Wilson.
Fillmore,C.J. (1977) The case for case reopened; *S+S 8*.
Findler,N.V. (ed.) (1979) *Associative Networks:Representation and use of knowledge by computers* ; New York: Academic Press.
Fine,R., Freedle,R. (ed.) (1983) *Developmental Issues in Discourse* ; Norwood, New Jersey: Ablex Pub. Corp.
Firbas,J. (1974) Some aspects of the Czechoslovak approach to problems of functional sentence perspective; in Danes, F. (ed.)(op.cit.)
Firth,J.R. (1957/1935) The Technique of Semantics; in Firth, J.R. (ed.)(op.cit.), pp7-33.
Firth,J.R. (1957/1950) Personality and language in society; in Firth, J.R. (ed.)(op.cit.), pp177-189.
Firth,J.R. (1957/1951) Modes of Meaning; in Firth, J.R.

(ed.)(op.cit.), pp190-215.
Firth,J.R. (1964) *The tongues of Men* (1937) *and Speech* (1930); Oxford University Press.
Firth,J.R. (1968) *Selected Papers of J.R.Firth 1952-59* ; edited by F.R.Palmer, London: Longman.
Firth,J.R. (1968/1956) Linguistics and Translation, in Firth, J.R. (op.cit.), pp84-95.
Firth,J.R. (ed.) (1957) *Papers in linguistics 1934-1951* ; Oxford University Press.
Fodor,J. (1975) *The language of thought* ; New York: Crowell.
Freedle,R. (ed.) (1977) *Discourse Production and Comprehension* ; Norwood, New Jersey: Ablex Pub. Corp.
Freedle,R. (ed.) (1979) *New Directions in Discourse Processing* ; Norwood, New Jersey: Ablex Pub. Corp.
Gadamer,H. (1976) *Philosophical Hermeneutics* ; trans. by D.E.Linge, Berkeley, California: University of California Press.
Gardiner,A. (1932) *The Theory of Speech and Language* ; Oxford University Press.
Garfinkel,H. (1967) *Studies in Ethnomethodology* ; New York: Prentice-Hall.
Garrod,S.C., Sanford,A.J. (1977) Interpreting anaphoric relations: the interpretation of semantic information while reading; *JVLVB 16*, pp77-90.
Garrod,S.C., Sanford,A.J. (1982) The mental representation of discourse in a focused memory system: implications for the interpretation of anaphoric noun phrases; *Journal of Semantics 1* .
Garvin,P.L. (ed.) (1970) *Method and Theory in Linguistics* ; The Hague: Mouton.
Garvin,P.L. (ed.) (1971) *Cognition : a multiple view* ; Spartan Books, New York.
Gazdar,G. (1981) Speech act assignment; in Joshi, A.K., Webber, B.L., and Sag, I.A. (eds.)(op.cit.), pp64-83.
Gibson,J.J. (1979) *The Ecological Approach to Visual Perception* ; Boston: Houghton Mifflin Co.
Giglioli,P.P. (1972) *Language and Social Context* ; Harmondsworth: Penguin.
Gilbert,G.N., Heath,C.C. (forthcoming) *Social action and artificial intelligence* ; Aldershot: Gower Press.
Givon,T. (1979a) From discourse to syntax; *S+S 12*, pp81-112.
Givon,T. (1979b) *On Understanding Grammar* ; New York: Academic Press.
Goffman,E. (1955) On face work; *Psychiatry 18* , pp213-231.
Goffman,E. (1967) *Interaction Ritual*; Harmondsworth: Penguin.
Goffman,E. (1981) *Forms of Talk* ; Oxford: Basil Blackwell.
Gregory,M.J. (1967) Aspects of varieties differentiation; *JL 3*.
Gregory,M.J. (1983) Clause and sentence as distinct units in the morpho-syntactic analysis of English and their relation to semological propositions and predications; in *9th. LACUS Forum* , Columbia, S.C.: Hornbeam Press.
Gregory,M.J., Carrol,S. (1978) *Language and Situation* ; London: Routledge and Kegan Paul.
Grice,H.P. (1957) Meaning; *Philosophical Review 66* , pp377-388.
Grice,H.P. (1975) Logic and Conversation; in *S+S 3*.
Grimes,J. (1972) Outlines and Overlays; *Lg 48*, pp513-524.
Grimes,J. (1975) *The thread of discourse* ; The Hague: Mouton.

Grossman,R.E., San,J.L., Vance,T.J. (eds.) (1975) *Papers from the parasession on Functionalism, April 17, 1975* ; Chicago Linguistics Society.
Grosz,B.J, Joshi,A.K., Weinstein,S. (1983) Providing a unified account of definite noun phrases in discourse; *ACL 21*, pp44-50, Cambridge, MA.
Grosz,B.J. (1977a) Representation and use of focus in a system for underlying dialogues; *IJCAI* 5, pp67-76.
Grosz,B.J. (1977b) The representation and use of focus in dialogue understanding; Ph.D. thesis, University of California at Berkeley.
Grosz,B.J. (1978) Focusing in dialog; *TINLAP 2*, pp95-103.
Grosz,B.J. (1981) Focusing and descriptions in natural language dialogues; in Joshi, A.K., Webber, B.L., and Sag, I.A. (eds.)(op.cit.), pp84-105.
Gumperz,J.J. (1982) *Discourse Strategies* ; Cambridge University Press.
Gumperz,J.J., Hymes,D. (eds.) (1972) *Directions in Sociolinguistics: the ethnography of communication* ; New York: Holt, Rinehard and Wilson.
Gurwitsch,A. (1970) Problems of the life-world; in Natanson,M. (ed.)(op.cit.), pp35-61.
Halliday,M.A.K, McIntosh,A., Strevens,P. (1964) *The linguistic sciences and language teaching* ; London: Longman.
Halliday,M.A.K. (1961) Categories of the theory of grammar; *Word 17* , pp241-292; reprinted in abbreviated form in Halliday(1976), (op.cit.), pp52-72.
Halliday,M.A.K. (1963) Class in relation to the axes of chain and choice in language; *Linguistics 2* , pp5-15; reprinted in abbreviated form in Halliday(1976)(op.cit.), pp84-87.
Halliday,M.A.K. (1967) Notes on Transitivity and Theme in English - Part 2; *JL 3*, pp199-244.
Halliday,M.A.K. (1970) Language Structure and Language Function; in J. Lyons (ed.)(op.cit.)
Halliday,M.A.K. (1973) *Explorations in the function of language* ; London: Edward Arnold.
Halliday,M.A.K. (1974) The place of "functional sentence perspective" in the system of linguistic description; in F.Danes (ed.)(op.cit.), pp43-53; reprinted in abbreviated form in Halliday(1976)(op.cit.), pp26-31.
Halliday,M.A.K. (1975) *Learning how to mean* ; London: Edward Arnold.
Halliday,M.A.K. (1976) *System and Function in Language* ; edited by G.Kress, Oxford University Press.
Halliday,M.A.K. (1978) *Language as social semiotic* ; London: Edward Arnold.
Halliday,M.A.K., Hasan,R. (1976) *Cohesion in English* ; London: Longman.
Hasan,R. (1977) Text in the systemic-functional model; in Dressler, W.U. (ed.)(op.cit.), pp228-246.
Haugeland,J. (1978) The nature and plausibility of cognitivism; *BBS 1*, pp215-226; reprinted in Haugeland, J. (ed.)(1981)(op.cit.), pp243-281.
Haugeland,J. (ed.) (1981) *Mind Design* ; Cambridge, Mass.: The M.I.T. Press.
Haviland,S.E., Clark,H.H. (1974) What's new? Acquiring new

information as a process in comprehension; *JVLVB 13*, pp512-521.
Hayes,P. (1977) In defense of logic; *IJCAI* 5, pp559-565.
Hayes,P., Reddy,D. (1983) Steps towards graceful interaction in spoken and written man-machine communication; *International Journal of Man-Machine Studies 19* , pp213-284.
Heidegger,M. (1962/1927) *Being and Time* ; trans. by J.Macquarrie and E.Robinson, Oxford: Basil Blackwell.
Heil,J. (1981) Does Cognitive Psychology Rest on a Mistake?; *Mind90* , pp321-342.
Heritage,J. (forthcoming.a) Recent developments in conversation analysis; in Luckmann, T. (ed.) *Sociolinguistics Newsletter.*
Heritage,J. (forthcoming.b) A 'change of state' token and aspects of its sequential placement; in Atkinson, J.M. and Heritage, J. (eds.) *Structures of social action* , Cambridge University Press.
Hopper,P.J., Thompson,S.A. (1980) Transitivity in grammar and discourse; *Lg 56*, pp251-299.
Hudson,R.A. (1971) *English complex sentences: an introduction to systemic grammar*; Amsterdam: North Holland.
Hudson,R.A. (1974) Systemic generative grammar; *Linguistics 139* , pp5-42.
Hudson,R.A. (1976) *Arguments for a non-transformational grammar* ; University of Chicago Press.
Humboldt,W. von (1971/1836) *Linguistic Variability and Intellectual Development* ; trans. by G.C. Buck and F.A. Raven, Miami Linguistics Series Number 9, Coral Gables, Florida.
Husserl,E. (1965) Philosophy as a Rigorous Science; in Lauer, Q. (ed.) *Phenomenology and the Crisis of Philosophy* , pp79-105, New York: Harpers and Row.
Hymes,D.H. (1962) The ethnography of speaking; in Gladwin,T. and Sturtevant, W.C. (eds.) *Anthropology and Human Behaviour* , Anthropological Society of Washington, Washington, D.C.
Hymes,D.H. (1964) Towards ethnographies of communicative events; *American Anthropologist 66* , pp12-25; reprinted in Giglioli,P.P. (ed.) (1972)(op.cit.), pp21-44.
Inder,R. (1984) Zen and the paradigm of ecological perception: on and around J.J. Gibson's "The ecological approach to visual perception"; MS, Dept. of AI and School of Epistemics, University of Edinburgh.
Israel,D.J. (1982) On interpreting semantic network formalisms; BBN Report No. 5117, Cambridge, Mass.: Bolt, Beranek, and Newman.
Israel,D.J. (1983) A prolegomenon to situation semantics; *ACL 21*, pp28-37, Cambridge, MA.
Israel,D.J., Brachman,R.J. (1981) Distinctions and Confusions : A Catalogue Raisonne; *IJCAI* 7, pp452-459.
Jefferson,G. (1972) Side Sequences; in Sudnow,D. (ed.)(op.cit.), pp294-338.
Jefferson,G. (1973) A case of precision timing in ordinary conversation: overlapped tag-positioned address terms in closing sequences; *Semiotica* 9, pp47-96.
Jefferson,G. (1980) Final Report to the (British) S.S.R.C. on the Analysis of Conversation in which "Troubles" and "Anxieties" are expressed; (mimeo).
Jefferson,G. (1981) The abominable "Ne?": a working paper exploring the phenomenon of post-response pursuit of response; University of Manchester Occasional Paper No. 6.

Johnson,J.M. (1977) Ethnomethodology and existential sociology; in Douglas,J.D., Johnson,J.M. (eds.) *Existential Sociology* , Cambridge University Press, pp153-173.
Joshi,A., Weinstein,S. (1981) Control of Inference: the role of some aspects of discourse structure centering; *IJCAI 7*, pp385-387.
Joshi,A.K., Webber,B.L., Sag,I.A. (eds.) (1981) *Elements of discourse understanding* ; Cambridge University Press.
Kamp,H. (1981) A theory of truth and semantic representation; in Groenendijk, J. and Janssen, T. (eds.) *Formal methods in the study of language part 1* , Amsterdam: Mathematisch Centrum.
Kantor,R.N. (1977) The management and comprehension of discourse connection by pronouns in English; unpub. Ph.D. thesis, Ohio State University.
Karttunen,L. (1976) Discourse referents; *S+S 7*.
Keenan,E.O., Schieffelin,B.B. (1976) Topic as a discourse notion; in Li, C., (op. cit.).
Kintsch,W. (1974) *Representation of meaning in memory* ; Hillsdale, New Jersey: Lawrence Erlbaum Assoc.
Kintsch,W. (1977) On comprehending stories; in Just, M. and Carpenter, P. (eds.) *Cognitive Processes in Comprehension* , Hilldale, New Jersey: Lawrence Erlbaum Associates.
Klein,W., Stechow,A. von (eds.)(1973) *Functional generative grammar in Prague*; Kronberg-Taunus: Scriptor Verlag.
Konolige,K. (1980) A first-order formalisation of knowledge and action for a multi-agent planning system; Tech. Note 232, SRI International.
Konolige,K., Nillsen,N. (1980) Multiple-Agent Planning Systems; *AAAI 80*, pp138-142.
Kuhn,T.S. (1962) *The Structure of Scientific Revolutions* ; University of Chicago Press.
Kuno,S. (1972) Functional sentence perspective; *LI 3*, pp269- 320.
Kuno,S. (1975) Three perspectives in the functional approach to syntax; in R.Grossman et.al. (eds.)(op.cit.), pp276-336.
Kuno,S. (1976) Subject, Theme and the Speaker's Empathy; in Li, C., (op. cit.).
Kuno,S. (1977) Generative Discourse Analysis in America; in Dressler, W.U. (ed.)(op.cit.), pp275-294.
Laberge,D., Samuels,S.J. (ed.) (1977) *Basic Processes in Reading: Perception and Comprehension* ; Hillsdale, New Jersey: Lawrence Erlbaum Associates.
Labov,W. (1972) Rules for ritual insults; in Sudnow,D. (ed.)(op.cit.), pp120-169.
Lamb,S.M. (1971) Linguistic and cognitive networks; in Garvin,P.(ed.)(op.cit.).
Lange,B. (1981) Making sense with schemata; *Journal of Reading 24* , 5, pp442-445.
Lansing,J.S. (1979) The world of the sea urchin: the application of Husserlian phenomenology to Cultural symbols; in Becker, A.L. and Yengoyan, A.A.. (eds.)(op.cit.), pp75-83.
Lehnert,W., Ringle, M. (eds.)(1982) *Strategies for natural language processing* ; Hillsdale, New Jersey: Lawrence Erlbaum Associates.
Levinson,S.C. (1981) The essential inadequacies of speech act models of dialogue; in Parret,H.,Sbisa,M., and Verscheuren,J. (eds.)(op.cit.), pp473-492.
Levinson,S.C. (1983) *Pragmatics* ; Cambridge University Press.

Levy,D.M. (1979a) Communicative goals and strategies: Between discourse and semantics; *S+S 12*, pp183-210.
Levy,D.M. (1979b) *The Architecture of the Text* ; unpublished Ph.D. thesis, Stanford University.
Lewis,D. (1972) General semantics; in Davidson, D. and Harman, G.H. (eds.)(op.cit.).
Li,C. (ed.) (1976) *Subject and Topic* ; New York: Academic Press.
Li,C., Thompson,S. (1976) Subject and topic:A new typology of language; in Li, C. (ed.)(op. cit.).
Linde,C. (1974) Information Structures in Discourse; Ph.D. thesis, Columbia University.
Linde,C. (1979) Focus of attention and the choice of pronouns in discourse; *S+S 12*, pp337-354.
Linde,C., Gougen,J. (1978) Structure of planning discourse; *J. Social Biol. Struct. 1* , pp219-251, London: Academic Press.
Linde,C., Labov,W. (1975) Spatial networks as a site for the study of language and thought; *Lg 51*, pp924-939.
Linge,D.E. (1976) Translator's Introduction; in Gadamer, H. op.cit. .
Longacre,R.E. (1970) Hierarchy in language; in Garvin,P.(ed.) (op.cit.), pp173-190.
Longacre,R.E. (1976) *An anatomy of speech notions* ; Lisse: de Ridder.
Luckmann,T. (1972) The constitution of language in the world of everyday life; in Embree,L.E. (ed.)(op.cit.), pp469-488.
Lyons,J. (1972) Human language; in Hinde, P.A. (ed.) *Non- verbal Communication* ; Cambridge University Press.
Lyons,J. (1977) *Semantics*; Cambridge University Press.
Lyons,J. (ed.) (1970) *New Horizons in Linguistics* ; Penguin.
Malinowski,B. (1923) Supplement I in Ogden, C.K. and Richards, I.A. *The Meaning of Meaning* ; London: Routledge and Kegan Paul.
Mann,W.C. (1981) Two discourse generators; *ACL 19*, pp43-47.
Mann,W.C. (1982) The Anatomy of a Systemic Choice; University of Southern California, Information Sciences Institute: ISI/RR-82-104.
Mann,W.C. (1983a) Inquiry semantics: a functional semantics of natural language grammar; University of Southern California, Information Sciences Institute: ISI/RS-83- 8.
Mann,W.C. (1983b) An introduction to the Nigel text generation grammar; in Mann, W.C. and Matthiessen, C.M.I.M. 1983a op.cit. .
Mann,W.C. (1984) Discourse stuctues for text generation; University of Southern California, Information Sciences Institute: ISI/RR-84-127.
Mann,W.C., Bates,M., Grosz,B.J., McDonald,D.D., McKeown,K.R., Swartout,W.R. (1981) Text Generation: the state of the art and literature; University of Southern California, Information Sciences Institute: ISI/RR-81-101; and University of Pennsylvania: MS-CIS- 81-9.
Mann,W.C., Matthiessen, C.M.I.M. (1983b) A demonstration of the Nigel text generation computer program. In Mann, W.C. and Matthiessen, C. 1983a op.cit. .
Mann,W.C., Matthiessen,C.M.I.M. (1983a) Nigel: a Systemic Gramar for Text Generation; University of Southern California, Information Sciences Institute: ISI/RR-83-105. To appear in: Freedle, R., ed., *Systemic Perspectives on Discourse: Selected Theoretical*

Papers of the 9th International Systemic Workshop , to be published by Ablex Pub. Inc., Hillsdale, New Jersey.

Mann,W.C., Moore,J.A. (1980) Computer as author - Results and Prospects; University of Southern California, Information Sciences Institute: ISI/RR-79-82.

Mann,W.C., Thompson,S.A. (1983) Relational propositions in discourse; University of Southern California, Information Sciences Institute: ISI/RR-83-115.

Marr,D. (1981) Artificial Intelligence - a personal view; in Haugeland, J. (ed.)(op.cit.).

Martin,J.R. (1983) The Development of Register; in Fine,J. and Freedle,R.O. (eds.)(op.cit.), pp1-40.

Matthiessen,C.M.I.M. (1981) A grammar and a lexicon for a text-production system; *ACL 19*, pp49-56.

Matthiessen,C.M.I.M. (1983) The systemic framework in text generation: Nigel. In Mann, W.C. and Matthiessen, C. (1983a)(op.cit.).

Matthiessen,C.M.I.M. (1984a) How to make grammatical choices in text generation; University of Southern California, Information Sciences Institute: ISI/RS-83-120.

Matthiessen,C.M.I.M. (1984b) Systemic grammar in computation: the Nigel case; University of Southern California, Information Sciences Institute: ISI/RS-83- 121.

Maturana,H.R. (1977) Biology of language; in Rieber, R.W. (ed.) *The Neuropsychology of Language* , New York: Plenum Press.

Maynard,D.W., Wilson,T.P. (1980) On the reification of social structure; in McNall, S. and Howe, G. (eds.)(op.cit.), pp287-322.

McCarthy,J. (1977) Predicate calculus; *IJCAI* 5.

McDermott,D.D. (1978) Tarskian Semantics, or No Notation without Denotation; *Cogn. Sci. 2*, pp277-282.

McDermott,D.D. (1981/1976) Artificial Intelligence meets Natural Stupidity; in Haugeland,J. (ed.)(1981)(op.cit.), pp143-160; reprinted from SIGART 57, Newsletter (April, 1976), pp4-9.

McKeown,K.R. (1982) Generating Natural Language Text in Response to Questions about Dialogue Structure; unpub. Ph.D. thesis, University of Pennsylvania.

McNall,S.G., Howe,G.N. (eds.) (1980) *Current Perspectives in Social Theory: Volume 1* ; Greenwich, Connecticut: JAI Press Inc.

McTear,M.F. (forthcoming) Conversational repair in CA and AI : a merging of perspectives; in Gilbert, G.N. and Heath, C.C. (eds.)(op.cit.).

Merleau-Ponty,M. (1964/1960) *Signs* ; trans. by R.C.McCleary, Evanston, Illinois: Northwestern University Press.

Meyer,P.G. (1975) *Satzverknupfungsrelationen* ; Tubingen: G. Narr.

Minsky,M. (1975) A framework for representing knowledge; in Winston, P. (ed.) *The Psychology of Computer Vision* , New York: McGraw Hill.

Mitchell,T.F. (1957) The Language of Buying and Selling in Cyrenaica: a situational statement; *Hesperis 44* , pp31-71; reprinted in T.F. Mitchell (1975) *Principles of Firthian Linguistics* ; London: Longman.

Mohan,B.A. (1969) An investigation of the relationship between language and situational factors in a card game, with specific attention to the language of instructions; unpub. Ph.D. thesis,

University of London.
Morgan,J.L. (1975) Some Remarks on the Nature of Sentences; in R.Grossman et.al. (eds.)(op.cit.), pp433-449.
Morgan,J.L. (1978) Toward a rational model of discourse comprehension; *TINLAP 2*, pp109-114.
Nash-Webber,B., Reiter,R. (1977) Anaphora and logical form: on formal meaning representations for natural language; *IJCAI 5*.
Natanson,M. (1970) Alfred Schutz on Social Reality and Social Science; in Natanson,M. (ed.)(op.cit.), pp101- 121.
Natanson,M. (ed.) (1970) *Phenomenology and Social Reality: Essays in memory of Alfred Schutz* ; Nijhoff, the Hague.
Newell,A. (1981) The knowledge level; Carnegie Mellon University, Dept. of Computer Science, CMU-CS-81-131.
Norman,D., Rumelhart,D. (1975) *Explorations in Cognition* ; San Francisco: Freeman.
Nunberg,G. (1981) Validating Pragmatic Explanations; in Cole,P.(ed.)(op.cit.), pp199-222.
O'Connor,J.D., Arnold,G.F. (1959) *The Intonation of Colloquial English* ; London: Longman.
Ochs,E. (1979) Planned and unplanned discourse; *S+S 12*, pp51-80.
Ochs,E., Schieffelin,B. (eds.) (1979) *Developmental Pragmatics* ; New York: Academic Press.
Ochs,E., Schieffelin,B., Platt,M. (1979) Propositions across Utterances and Speakers; in Ochs, E, and Schieffelin, B. (eds.)(op.cit.), pp251-268.
Owen,M. (1979) Remedial interchanges: a study of language use in social interaction; unpub. Ph.D. thesis, University of Cambridge.
Owen,M. (1981) Conversational units and the use of 'Well ...'; in Werth,P. (ed.)(op.cit.), pp99-116.
Owen,M. (1983) *Apologies and remedial interchanges; a study of language use in social interaction*; Berlin: de Gruyter.
Papert,S. (1968) The artificial intelligence of Hubert L. Dreyfus ... ; Cambridge, Mass.: M.I.T. AI Laboratory.
Parret,H., Sbisa,M., Verscheuren,J. (eds.) (1981) *Possibilities and Limitations of Pragmatics* ; Conference on Pragmatics, Urbino, July8-14, 1979, Amsterdam: John Benjamins B.V.
Perrault,C.R., Allen,J.F., Cohen,P.R. (1978) Speech acts as a basis for understanding dialogue coherence; *TINLAP 2*, pp125-132.
Polanyi,L. (1978a) False starts can be true; *BLS 4*.
Polanyi,L. (1978b) The American Story: Cultural constraints on the meaning and structure of stories in conversation; unpub. Ph.D. thesis, University of Michigan.
Pomerantz,A. (1975) Second Assessments: a study of some features of agreements/disagreements; unpub. Ph.D. thesis, University of California, Irvine.
Power,R. (1974) Organising Purposeful Dialogues; unpub. Ph.D. thesis, University of Edinburgh.
Power,R. (1979) The organisation of purposeful dialogues; *Linguistics 17* , pp107-151.
Prince,E.F. (1981) Toward a taxonomy of given-new information; in Cole,P. (ed.)(op.cit.), pp223-256.
Putnam,H. (1981/1973) Reductionism and the Nature of Psychology; *Cognition 2*, pp131-146; reprinted in Haugeland, J. (ed.) (1981) (op.cit.).

Pylyshyn,Z.W. (1974) Minds, machines and phenomenology; *Cognition 3*, pp57-77.
Pylyshyn,Z.W. (1979) Complexity and the study of Human and Artificial Intelligence; in Ringle,M.D. (ed.)(op.cit.), pp23-56.
Pylyshyn,Z.W. (1980) Computation and cognition: issues in the foundations of cognitive science; *BBS 3*, pp111-132.
Quillian,M.R. (1968) Semantic Memory; *Semantic Processing* , Minsky, M. (ed.), MIT Press.
Reddy,M.J. (1979) The Conduit Metaphor - a case of frame conflict in our language about language; in Ortony, A. (ed.) *Metaphor and Thought* , Cambridge University Press, pp284-324.
Reichman,R. (1978) Conversational coherency; *Cogn. Sci. 2.*
Reichman,R. (1981) *Plain Speaking : A theory and grammar of spontaneous discourse* ; Ph.D. Thesis, Harvard University; page numbers in the text refer to the version of the thesis which appears as BBN Report No. 4681 (Cambridge, Mass.: Bolt, Beranek, and Newman) - these differ slightly from those of the original thesis.
Reichman-Adar,R. (1984) Extended Person-Machine Interface; *AI22* , pp157-218.
Richardson,K. (1981) Sentences in discourse; in Coulthard, M. and Montgomery, M. (eds.)(op.cit.), pp51-60.
Ringle,M., Bruce,B. (1982) Conversation failure; in Lehnert, W. and Ringle, M. (eds.)(op.cit.).
Ringle,M.D. (ed.) (1979) *Philosophical Perspectives in Artificial Intelligence* ; Harvester Press.
Ritchie,G.D., Hanna,F.K. (1983) Semantic networks - a general definition and a survey; *Information Technology: Research and Development 2* , pp187-231.
Rommetveit,R. (1974) *On Message Structure: A framework for the study of language and communication* ; New York: Wiley.
Rubin,A.D. (1980) A theoretical taxonomy of the differences between oral and written language; in Spiro,R. et al. (eds.)(op.cit.).
Rumelhart,D. (1975) Notes on a schema for stories; in Bobrow, D. and Collins, A. (eds.)(op.cit.).
Rumelhart,D. (1977) Understanding and summarizing brief stories; in Laberge, D. and Samuels, S.J. (eds.)(op.cit.).
Sacks,H. (1972) On the analyzability of stories by children; in Gumperz, J. and Hymes, D. (eds.)(op.cit.).
Sacks,H. (1975) An analysis of the course of a joke's telling in conversation; in Baumann, R. and Sherzer, J. (eds.) *Explorations in the Ethnography of Speaking* , Cambridge University Press.
Sacks,H., Schegloff,E.A., Jefferson,G. (1974) A simplest systematics for the organisation of turn-taking for conversation; *Lg 50*, pp696-735; reprinted in Schenkein,J. (ed.)(1979)(op.cit.), pp7-55.
Sanford,A.J., Garrod,S.C. (1981) *Understanding Written Language* ; New York: Wiley.
Sankoff,G., Brown,P. (1976) Origins of syntax in discourse; *Lg 52*.
Saussure,F. de (1959/1915) *Course in General Linguistics* ; translated by W.Baskin, Peter Owen Ltd., London.
Schank,R.C. (1972) Conceptual dependency: a theory of understanding; Cogn.Psych.3, pp552-631.
Schank,R.C. (1975) *Conceptual Information Processing* ; Amsterdam: North Holland.

Schank,R.C. (1980) Language and Memory; *Cogn. Sci. 4*, pp243- 284.
Schank,R.C. ,Abelson,R.P. (1977) *Scripts, Plans, Goals and Understanding* ; Lawrence Erlbaum Assoc.
Schegloff,E.A. (1968) Sequencing in conversational openings; *American Anthropologist 70* , pp1075-1095.
Schegloff,E.A. (1972) Notes on a conversational practice: formulating place; in Sudnow,D. (ed.)(op.cit.), pp75- 119; reproduced in abbreviated form in Giglioli, P.P. (ed.)(1972) (op.cit.), pp95-135.
Schegloff,E.A. (1977) On some questions and ambiguities in conversation; in Dressler, W.U. (ed.)(op.cit.), p81- 102.
Schegloff,E.A. (1982) Discourse as an interactional achievement: Some uses of 'uh huh' and other things that come between sentences; in Tannen, D. (ed.)(op.cit.), pp71-93.
Schegloff,E.A., Jefferson,G., Sacks,H. (1977) The preference for self-correction in the organisation of repair in conversation; *Lg 53*, pp361-383.
Schegloff,E.A., Sacks,H. (1973) Opening up closings; *Semiotica 8*, pp289-327.
Schenkein,J. (ed.)(1979) *Studies in the Organisation of Conversational Interaction* ; Academic Press: New York.
Schutz,A. (1966) *Collected Papers III: Studies in phenomenological philosophy* ; ed. I.Schutz, Nijhoff, the Hague.
Schutz,A. (1966/1957) The problem of intersubjectivity in Husserl; in Schutz,A. (1966) (op.cit.), pp51-83.
Schutz,A. (1970) *Reflections on the Problem of Relevance* ; New Haven, Conn.: Yale University Press.
Schutz,A. (1972/1932) *The phenomenology of the social world* ; trans. by Walsh, G. and Lehnert, F., London.
Schutz,A., Luckmann,T. (1974) *The Structures of the Life- World* ; trans. by R.M.Zaner and H.T.Engelhardt, London: Heinemann.
Scollon,R. (1976) *Conversations with a one year old: A case study of the developmental foundation of syntax* ; Honolulu: University of Hawaii Press.
Scollon,R. (1979) A real early stage: an unzippered condensation of a dissertation on child language; in Ochs,E. and Schieffelin,B. (eds.)(op.cit.).
Searle,J.R. (1969) *Speech Acts* ; Cambridge University Press.
Searle,J.R. (1975) Indirect speech acts; in *S+S 3*.
Searle,J.R. (1976) A taxonomy of illocutionay acts; in K. Gunderson (ed.) *Language, Mind, and Knowledge* , University of Minnesota Press.
Searle,J.R. (1980a) Minds, Brains, and Programs; *BBS 3*, pp417-424; reprinted in Haugeland,J. (ed.)(1981)(op.cit.), pp282-306.
Searle,J.R. (1980b) The Intentionality of Intention and Action; *Cogn. Sci. 4*, pp47-70.
Searle,J.R., Vanderveken,D. (1984) *Foundations of Illocutionary Logic* ; Cambridge University Press.
Sgall,P. (1974) Focus and contextual boundness; in O.Dahl (ed.)(op.cit.), p25-52.
Sgall,P., Hajicova,E., Benesova,E. (1973) *Topic, Focus, and generative semantics* ; Kronberg-Tanus:Scriptor Verlag.
Shadbolt,N. (1983) Processing Reference; *Journal of Semantics 2* , pp63-98.
Shepherd,H.R. (1926) *The Fine Art of Writing* ; New York: The

MacMillan Co.
Sidner,C.L. (1978) The use of focus as a tool for disambiguation of definite noun phrases; *TINLAP 2*, pp86-95.
Sidner,C.L. (1979) Towards a computational theory of definite anaphora comprehension; unpub. Ph.D. thesis, MIT.
Sidner,C.L. (1981) Focusing for interpretation of pronouns; *AJCL 7. 4*, pp217-231.
Simon,H.A. (1980) Cognitive science: the newest science of the artificial; *Cogn. Sci. 4*, pp33-46.
Sinclair,J., Coulthard,R.M. (1975) *Towards an Analysis of Discourse* ; London: Oxford University Press.
Spencer,J., Gregory,M.J. (1964) An approach to the study of style; in Enkvist,N.E., Spencer,J. and Gregory,M.J. (op.cit.), pp57-105.
Spiegelberg,H. (1981) *The Context of the Phenomenological Movement* ; The Hague: Nijhoff.
Spiro,R., Bruce,B., Brewer,W. (eds.) (1980) *Theoretical Issues in Reading Comprehension* ; Hillsdale, New Jersey: Lawrence Erlbaum.
Stark,C. (1981) Representation, Purpose and Planning in a Social Domain; Dept. of AI, Working Paper 91, University of Edinburgh.
Stratton,C.R. (1971) Linguistics, Rhetoric, and Discourse Structure; unpub. Ph.D. thesis, University of Wisconsin.
Stubbs,M. (1981) Motivating analyses of exchange structure; in Coulthard, M. and Montgomery, M. (eds.)(op.cit.), pp107-119.
Sudnow,D. (ed.) (1972) *Studies in Social Interaction* ; New York: The Free Press.
Tannen,D. (1979) What's in a frame? Surface evidence for underlying expectations; in Freedle,R. (ed.)(op.cit.).
Tannen,D. (1980) A comparative analysis of oral narrative strategies: Athenian Greek and American English; in Chafe,W. (ed.)(op.cit.), pp51-88.
Tannen,D. (ed.) (1982) *Georgetown University Round Table on Languages and Linguistics 1981 - "Analyzing Discourse: Text and Talk"* ; Washington, D.C.: Georgetown University Press.
Thompson,H.S. (1976) Some thoughts on Given-New, Topic- Comment, and Theme-Rheme; unpublished MS.
Turner, R. (1974) *Ethnomethodology*; Harmondsworth: Penguin.
Turner,G.J. (1973) Social class and children's language of control at age five and age seven; in Bernstein,B, (ed.)(op.cit.), pp135-201.
Vachek,J. (1966) *The linguistic school of Prague* ; Bloomington, Indiana: Indiana University press.
Vygotsy,L.S. (1962/1934) *Thought and Language* ; translated by E. Hanfmann and G. Vakar; Cambridge, Mass.: MIT Press.
Wald,B. (1979) The development of the Swahili OM: A study of the interaction of syntax and discourse; *S+S 12*, pp505- 524.
Webber,B.L. (1979) *A formal approach to discourse anaphora* ; London: Garland Pub. Inc.
Wells, . MacLure,M., Montgomery,M. (1981) Some strategies for sustaining conversation; in Werth,P. (ed.)(op.cit.), pp73-85.
Werner,P. (1984) The role of hermeneutics in cognitive science; unpub. MS, School of Epistemics, University of Edinburgh.
Werth,P. (ed.) (1981) *Conversation, Speech, and Discourse* , London: Croom Helm Ltd.
Wilkins,D.A. (1975) *Notional Syllabuses* ; London: Oxford University Press.

Winograd,T. (1972) *Understanding Natural Language* ; Edinburgh University Press.
Winograd,T. (1977) A framework for understanding discourse; in Just, M. and Carpenter, P. (eds.) *Cognitive processes in comprehension* , Hillsdale, New Jersey: Lawrence Erlbaum Associates.
Winograd,T. (1980) What does it mean to understand language?; *Cogn. Sci. 4*, pp209-241.
Wittgenstein,L. (1974/1958) *Philosophical Investigations* ; trans. by G.E.M. Anscombe, Oxford: Basil Blackwell.
Woods,W.A. (1978) Taxonomic lattice structures for situation recognition; *TINLAP 2*, pp33-41.
Woods,W.A. (1981) Procedural semantics as a theory of meaning; in Joshi, A.K., Webber, B.L., and Sag, I.A. (eds.)(op.cit.), pp300-334.
Woods,W.A. (1982) Research in Knowledge Representation and Natural Language Understanding; Annual Report: 1 Sep 1980 - 31 Aug 1981, BBN Report No. 4785, Cambridge, Mass.: Bolt Beranek and Newman.
Wootton,A. (1975) *Dilemmas of Discourse* ; London: George Allen and Unwin Ltd.
Yngve,V.H. (1970) On getting a word in edgewise; *CLS 6*, pp567-578.
Yule,G. (1979) Pragmatically controlled anaphora; *Lingua 49*.
Yule,G. (1981) Aspects of the information structure of spoken discourse; unpublished Ph.D. thesis, University of Edinburgh.
Zaner,R.M. (1970) Introduction to Schutz,A. (op.cit.).

Glossary of discourse level micro-functions

Textual layer

ai, aii, aiii, ...	Berry's original functions for moves of the first speaker
bi, bii, biii, ...	Berry's original functions for moves of the second speaker
mi, mii, miii, ...	Moves of standard topic development
mi', mii', ...	Moves of a micro-exchange
mi_I, mii_I, ...	Moves of an insertion sequence

Ideational layer

pb_i	Proposition base, necessarily incomplete
$pb_{i'}$	pb with respect to a repaired proposition
pc_i	Proposition completion
$pc_{i'}$	pc with respect to a repaired proposition
pc_F	pc with respect to aspect of previous proposition
ps_i	Proposition support; either:
ps_i^-	- negative (i.e. challenge)
ps_i^+	- positive (i.e. acceptance)
$ps_{i'}$	ps with respect to a repaired proposition

Interpersonal layer

k1	Primary knower, the informer
k1.c	Primary knower, informing to be continued
k2	Secondary knower, the informed
k2f	State of secondary knowledge after informing:
k2f.f	- successfully (i.e. 'exchange final')
k2f.c	- unsuccessfully (i.e. 'exchange' continuing)
pk2f	Pre-emptive k2f, interrupts an informing move
dk1	Delayed primary knower, k1 to follow

Moves that weren't

~~k2f~~, ~~k2~~, ~~pk2f~~, ~~ps~~, etc.	Discourse environment relevances a move of a given type, but speaker overrules this

Lexicogrammatical details

$base_i$	One complete lexicogrammatical actualisation
pre-$base_i$	A base interrupted by a turn boundary
$add_{i.j}$	Addition to $base_i$, creating a new base $base_{i.j}$
$mod_{i.j}$	Modification to $base_i$, creating a new base $base_{i.j}$
mod [label]	Modification to a base in respect of feature labelled
$rep_{i.j}$	Repetition of aspect of $base_i$
rep [label]	Repetition of aspect labelled
emb_i	A connected ('embedded') lexicogrammatical base

Miscellaneous

∅	Move terminated before classification possible
NV	Nonverbal contribution (e.g. laughter, etc.)
.	Continuation of previous micro-function at this layer
-	Interrupted or incomplete move
->	Move opportunity passed